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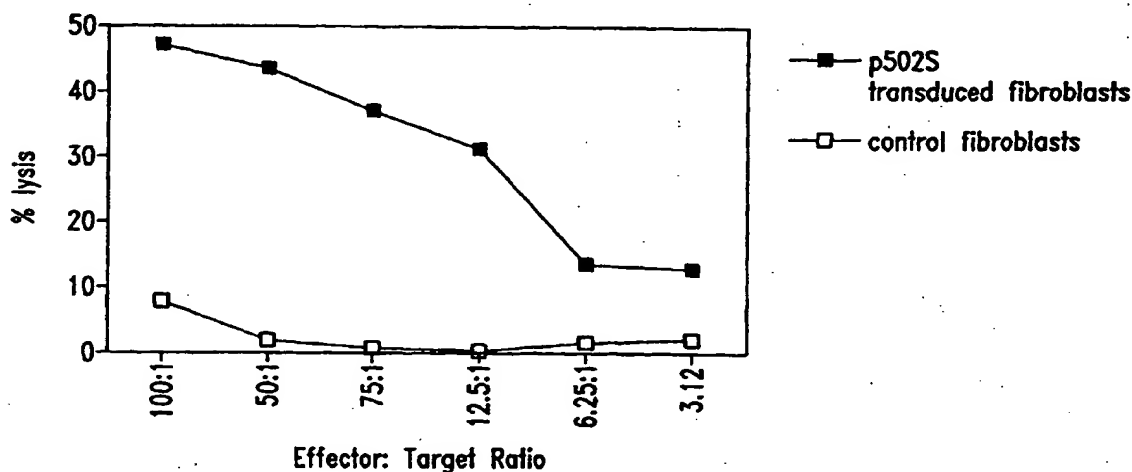
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(54) Title: COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER



(57) Abstract: Compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer, are disclosed. Compositions may comprise one or more prostate tumor proteins, immunogenic portions thereof, or polynucleotides that encode such portions. Alternatively, a therapeutic composition may comprise an antigen presenting cell that expresses a prostate tumor protein, or a T cell that is specific for cells expressing such a protein. Such compositions may be used, for example, for the prevention and treatment of diseases such as prostate cancer. Diagnostic methods based on detecting a prostate tumor protein, or mRNA encoding such a protein, in a sample are also provided.

COMPOSITIONS AND METHODS FOR THERAPY AND DIAGNOSIS OF PROSTATE CANCER

TECHNICAL FIELD

The present invention relates generally to therapy and diagnosis of cancer, such as prostate cancer. The invention is more specifically related to polypeptides comprising at least a portion of a prostate tumor protein, and to polynucleotides encoding such polypeptides. Such polypeptides and polynucleotides may be used in vaccines and pharmaceutical compositions for prevention and treatment of prostate cancer, and for the diagnosis and monitoring of such cancers.

BACKGROUND OF THE INVENTION

Prostate cancer is the most common form of cancer among males, with an estimated incidence of 30% in men over the age of 50. Overwhelming clinical evidence shows that human prostate cancer has the propensity to metastasize to bone, and the disease appears to progress inevitably from androgen dependent to androgen refractory status, leading to increased patient mortality. This prevalent disease is currently the second leading cause of cancer death among men in the U.S.

In spite of considerable research into therapies for the disease, prostate cancer remains difficult to treat. Commonly, treatment is based on surgery and/or radiation therapy, but these methods are ineffective in a significant percentage of cases. Two previously identified prostate specific proteins - prostate specific antigen (PSA) and prostatic acid phosphatase (PAP) - have limited therapeutic and diagnostic potential. For example, PSA levels do not always correlate well with the presence of prostate cancer, being positive in a percentage of non-prostate cancer cases, including benign prostatic hyperplasia (BPH). Furthermore, PSA measurements correlate with prostate volume, and do not indicate the level of metastasis.

In spite of considerable research into therapies for these and other cancers, prostate cancer remains difficult to diagnose and treat effectively. Accordingly, there is a need in the art for improved methods for detecting and treating

such cancers. The present invention fulfills these needs and further provides other related advantages.

SUMMARY OF THE INVENTION

Briefly stated, the present invention provides compositions and methods for the diagnosis and therapy of cancer, such as prostate cancer. In one aspect, the present invention provides polypeptides comprising at least a portion of a prostate tumor protein, or a variant thereof. Certain portions and other variants are immunogenic, such that the ability of the variant to react with antigen-specific antisera is not substantially diminished. Within certain embodiments, the polypeptide comprises at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of: (a) sequences recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; (b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and (c) complements of any of the sequence of (a) or (b). In certain specific embodiments, such a polypeptide comprises at least a portion, or variant thereof, of a tumor protein that includes an amino acid sequence selected from the group consisting of sequences recited in any one of SEQ ID NO: 112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

The present invention further provides polynucleotides that encode a polypeptide as described above, or a portion thereof (such as a portion encoding at least 15 amino acid residues of a prostate tumor protein), expression vectors comprising such polynucleotides and host cells transformed or transfected with such expression vectors.

Within other aspects, the present invention provides pharmaceutical compositions comprising a polypeptide or polynucleotide as described above and a physiologically acceptable carrier.

Within a related aspect of the present invention, vaccines are provided. Such vaccines comprise a polypeptide or polynucleotide as described above and a non-specific immune response enhancer.

The present invention further provides pharmaceutical compositions that comprise: (a) an antibody or antigen-binding fragment thereof that specifically binds to a prostate tumor protein; and (b) a physiologically acceptable carrier.

Within further aspects, the present invention provides pharmaceutical compositions comprising: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a pharmaceutically acceptable carrier or excipient. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B cells.

Within related aspects, vaccines are provided that comprise: (a) an antigen presenting cell that expresses a polypeptide as described above and (b) a non-specific immune response enhancer.

The present invention further provides, in other aspects, fusion proteins that comprise at least one polypeptide as described above, as well as polynucleotides encoding such fusion proteins.

Within related aspects, pharmaceutical compositions comprising a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a physiologically acceptable carrier are provided.

Vaccines are further provided, within other aspects, that comprise a fusion protein, or a polynucleotide encoding a fusion protein, in combination with a non-specific immune response enhancer.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient a pharmaceutical composition or vaccine as recited above.

The present invention further provides, within other aspects, methods for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the protein from the sample.

Within related aspects, methods are provided for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated as described above.

Methods are further provided, within other aspects, for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of: (i) a polypeptide as described above; (ii) a polynucleotide encoding such a polypeptide; and/or (iii) an antigen presenting cell that expresses such a polypeptide; under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells. Isolated T cell populations comprising T cells prepared as described above are also provided.

Within further aspects, the present invention provides methods for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population as described above.

The present invention further provides methods for inhibiting the development of a cancer in a patient, comprising the steps of: (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with one or more of: (i) a polypeptide comprising at least an immunogenic portion of a prostate tumor protein; (ii) a polynucleotide encoding such a polypeptide; and (iii) an antigen-presenting cell that expressed such a polypeptide; and (b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient. Proliferated cells may, but need not, be cloned prior to administration to the patient.

Within further aspects, the present invention provides methods for determining the presence or absence of a cancer in a patient, comprising: (a) contacting a biological sample obtained from a patient with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and (c) comparing the amount of polypeptide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within preferred embodiments, the binding agent is an antibody, more preferably a monoclonal antibody. The cancer may be prostate cancer.

The present invention also provides, within other aspects, methods for monitoring the progression of a cancer in a patient. Such methods comprise the steps of: (a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a polypeptide as recited above; (b) detecting in the sample an amount of polypeptide that binds to the binding agent; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polypeptide detected in step (c) with the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

The present invention further provides, within other aspects, methods for determining the presence or absence of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample a level of a polynucleotide, preferably mRNA, that hybridizes to the oligonucleotide; and (c) comparing the level of polynucleotide that hybridizes to the oligonucleotide with a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient. Within certain embodiments, the amount of mRNA is detected via polymerase chain reaction using, for example, at least one oligonucleotide primer that hybridizes to a polynucleotide encoding a polypeptide as recited above, or a complement of such a polynucleotide. Within other embodiments, the amount of mRNA is detected using a hybridization technique, employing an oligonucleotide probe that hybridizes to a polynucleotide that encodes a polypeptide as recited above, or a complement of such a polynucleotide.

In related aspects, methods are provided for monitoring the progression of a cancer in a patient, comprising the steps of: (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein; (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; (c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and (d) comparing the amount of polynucleotide detected in step (c) with the amount

detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

Within further aspects, the present invention provides antibodies, such as monoclonal antibodies, that bind to a polypeptide as described above, as well as diagnostic kits comprising such antibodies. Diagnostic kits comprising one or more oligonucleotide probes or primers as described above are also provided.

These and other aspects of the present invention will become apparent upon reference to the following detailed description and attached drawings. All references disclosed herein are hereby incorporated by reference in their entirety as if each was incorporated individually.

BRIEF DESCRIPTION OF THE DRAWINGS AND SEQUENCE IDENTIFIERS

Figure 1 illustrates the ability of T cells to kill fibroblasts expressing the representative prostate tumor polypeptide P502S, as compared to control fibroblasts. The percentage lysis is shown as a series of effector:target ratios, as indicated.

Figures 2A and 2B illustrate the ability of T cells to recognize cells expressing the representative prostate tumor polypeptide P502S. In each case, the number of γ -interferon spots is shown for different numbers of responders. In Figure 2A, data is presented for fibroblasts pulsed with the P2S-12 peptide, as compared to fibroblasts pulsed with a control E75 peptide. In Figure 2B, data is presented for fibroblasts expressing P502S, as compared to fibroblasts expressing HER-2/*neu*.

Figure 3 represents a peptide competition binding assay showing that the P1S#10 peptide, derived from P501S, binds HLA-A2. Peptide P1S#10 inhibits HLA-A2 restricted presentation of fluM58 peptide to CTL clone D150M58 in TNF release bioassay. D150M58 CTL is specific for the HLA-A2 binding influenza matrix peptide fluM58.

Figure 4 illustrates the ability of T cell lines generated from P1S#10 immunized mice to specifically lyse P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat A2Kb targets, as compared to EGFP-transduced Jurkat A2Kb. The percent lysis is shown as a series of effector to target ratios, as indicated.

Figure 5 illustrates the ability of a T cell clone to recognize and specifically lyse Jurkat A2Kb cells expressing the representative prostate tumor polypeptide P501S, thereby demonstrating that the P1S#10 peptide may be a naturally processed epitope of the P501S polypeptide.

Figures 6A and 6B are graphs illustrating the specificity of a CD8⁺ cell line (3A-1) for a representative prostate tumor antigen (P501S). Figure 6A shows the results of a ⁵¹Cr release assay. The percent specific lysis is shown as a series of effector:target ratios, as indicated. Figure 6B shows the production of interferon-gamma by 3A-1 cells stimulated with autologous B-LCL transduced with P501S, at varying effector:target ratios as indicated.

SEQ ID NO: 1 is the determined cDNA sequence for F1-13

SEQ ID NO: 2 is the determined 3' cDNA sequence for F1-12

SEQ ID NO: 3 is the determined 5' cDNA sequence for F1-12

SEQ ID NO: 4 is the determined 3' cDNA sequence for F1-16

SEQ ID NO: 5 is the determined 3' cDNA sequence for H1-1

SEQ ID NO: 6 is the determined 3' cDNA sequence for H1-9

SEQ ID NO: 7 is the determined 3' cDNA sequence for H1-4

SEQ ID NO: 8 is the determined 3' cDNA sequence for J1-17

SEQ ID NO: 9 is the determined 5' cDNA sequence for J1-17

SEQ ID NO: 10 is the determined 3' cDNA sequence for L1-12

SEQ ID NO: 11 is the determined 5' cDNA sequence for L1-12

SEQ ID NO: 12 is the determined 3' cDNA sequence for N1-1862

SEQ ID NO: 13 is the determined 5' cDNA sequence for N1-1862

SEQ ID NO: 14 is the determined 3' cDNA sequence for J1-13

SEQ ID NO: 15 is the determined 5' cDNA sequence for J1-13

SEQ ID NO: 16 is the determined 3' cDNA sequence for J1-19

SEQ ID NO: 17 is the determined 5' cDNA sequence for J1-19

SEQ ID NO: 18 is the determined 3' cDNA sequence for J1-25

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SEQ ID NO: 105 is the determined cDNA sequence for 1D-4296
SEQ ID NO: 106 is the determined cDNA sequence for 1D-4280
SEQ ID NO: 107 is the determined full length cDNA sequence for F1-12 (also referred to as P504S)
SEQ ID NO: 108 is the predicted amino acid sequence for F1-12
SEQ ID NO: 109 is the determined full length cDNA sequence for J1-17

SEQ ID NO: 110 is the determined full length cDNA sequence for L1-12
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SEQ ID NO: 252 is the determined cDNA sequence for JPTPN85
SEQ ID NO: 253 is the determined cDNA sequence for JPTPN86
SEQ ID NO: 254 is the determined cDNA sequence for JPTPN87
SEQ ID NO: 255 is the determined cDNA sequence for JPTPN88
SEQ ID NO: 256 is the determined cDNA sequence for JP1F1
SEQ ID NO: 257 is the determined cDNA sequence for JP1F2
SEQ ID NO: 258 is the determined cDNA sequence for JP1C2

SEQ ID NO: 259 is the determined cDNA sequence for JP1B1
SEQ ID NO: 260 is the determined cDNA sequence for JP1B2
SEQ ID NO: 261 is the determined cDNA sequence for JP1D3
SEQ ID NO: 262 is the determined cDNA sequence for JP1A4
SEQ ID NO: 263 is the determined cDNA sequence for JP1F5
SEQ ID NO: 264 is the determined cDNA sequence for JP1E6
SEQ ID NO: 265 is the determined cDNA sequence for JP1D6
SEQ ID NO: 266 is the determined cDNA sequence for JP1B5
SEQ ID NO: 267 is the determined cDNA sequence for JP1A6
SEQ ID NO: 268 is the determined cDNA sequence for JP1E8
SEQ ID NO: 269 is the determined cDNA sequence for JP1D7
SEQ ID NO: 270 is the determined cDNA sequence for JP1D9
SEQ ID NO: 271 is the determined cDNA sequence for JP1C10
SEQ ID NO: 272 is the determined cDNA sequence for JP1A9
SEQ ID NO: 273 is the determined cDNA sequence for JP1F12
SEQ ID NO: 274 is the determined cDNA sequence for JP1E12
SEQ ID NO: 275 is the determined cDNA sequence for JP1D11
SEQ ID NO: 276 is the determined cDNA sequence for JP1C11
SEQ ID NO: 277 is the determined cDNA sequence for JP1C12
SEQ ID NO: 278 is the determined cDNA sequence for JP1B12
SEQ ID NO: 279 is the determined cDNA sequence for JP1A12
SEQ ID NO: 280 is the determined cDNA sequence for JP8G2
SEQ ID NO: 281 is the determined cDNA sequence for JP8H1
SEQ ID NO: 282 is the determined cDNA sequence for JP8H2
SEQ ID NO: 283 is the determined cDNA sequence for JP8A3
SEQ ID NO: 284 is the determined cDNA sequence for JP8A4
SEQ ID NO: 285 is the determined cDNA sequence for JP8C3
SEQ ID NO: 286 is the determined cDNA sequence for JP8G4
SEQ ID NO: 287 is the determined cDNA sequence for JP8B6
SEQ ID NO: 288 is the determined cDNA sequence for JP8D6

SEQ ID NO: 289 is the determined cDNA sequence for JP8F5
SEQ ID NO: 290 is the determined cDNA sequence for JP8A8
SEQ ID NO: 291 is the determined cDNA sequence for JP8C7
SEQ ID NO: 292 is the determined cDNA sequence for JP8D7
SEQ ID NO: 293 is the determined cDNA sequence for P8D8
SEQ ID NO: 294 is the determined cDNA sequence for JP8E7
SEQ ID NO: 295 is the determined cDNA sequence for JP8F8
SEQ ID NO: 296 is the determined cDNA sequence for JP8G8
SEQ ID NO: 297 is the determined cDNA sequence for JP8B10
SEQ ID NO: 298 is the determined cDNA sequence for JP8C10
SEQ ID NO: 299 is the determined cDNA sequence for JP8E9
SEQ ID NO: 300 is the determined cDNA sequence for JP8E10
SEQ ID NO: 301 is the determined cDNA sequence for JP8F9
SEQ ID NO: 302 is the determined cDNA sequence for JP8H9
SEQ ID NO: 303 is the determined cDNA sequence for JP8C12
SEQ ID NO: 304 is the determined cDNA sequence for JP8E11
SEQ ID NO: 305 is the determined cDNA sequence for JP8E12
SEQ ID NO: 306 is the amino acid sequence for the peptide PS2#12
SEQ ID NO: 307 is the determined cDNA sequence for P711P
SEQ ID NO: 308 is the determined cDNA sequence for P712P
SEQ ID NO: 309 is the determined cDNA sequence for CLONE23
SEQ ID NO: 310 is the determined cDNA sequence for P774P
SEQ ID NO: 311 is the determined cDNA sequence for P775P
SEQ ID NO: 312 is the determined cDNA sequence for P715P
SEQ ID NO: 313 is the determined cDNA sequence for P710P
SEQ ID NO: 314 is the determined cDNA sequence for P767P
SEQ ID NO: 315 is the determined cDNA sequence for P768P
SEQ ID NO: 316-325 are the determined cDNA sequences of previously isolated genes
SEQ ID NO: 326 is the determined cDNA sequence for P703PDE5
SEQ ID NO: 327 is the predicted amino acid sequence for P703PDE5

SEQ ID NO: 328 is the determined cDNA sequence for P703P6.26

SEQ ID NO: 329 is the predicted amino acid sequence for P703P6.26

SEQ ID NO: 330 is the determined cDNA sequence for P703PX-23

SEQ ID NO: 331 is the predicted amino acid sequence for P703PX-23

SEQ ID NO: 332 is the determined full length cDNA sequence for P509S

SEQ ID NO: 333 is the determined extended cDNA sequence for P707P (also referred to as 11-C9)

SEQ ID NO: 334 is the determined cDNA sequence for P714P

SEQ ID NO: 335 is the determined cDNA sequence for P705P (also referred to as 9-F3)

SEQ ID NO: 336 is the predicted amino acid sequence for P705P

SEQ ID NO: 337 is the amino acid sequence of the peptide P1S#10

SEQ ID NO: 338 is the amino acid sequence of the peptide p5

SEQ ID NO: 339 is the predicted amino acid sequence of P509S

SEQ ID NO: 340 is the determined cDNA sequence for P778P

SEQ ID NO: 341 is the determined cDNA sequence for P786P

SEQ ID NO: 342 is the determined cDNA sequence for P789P

SEQ ID NO: 343 is the determined cDNA sequence for a clone showing homology to Homo sapiens MM46 mRNA

SEQ ID NO: 344 is the determined cDNA sequence for a clone showing homology to Homo sapiens TNF-alpha stimulated ABC protein (ABC50) mRNA

SEQ ID NO: 345 is the determined cDNA sequence for a clone showing homology to Homo sapiens mRNA for E-cadherin

SEQ ID NO: 346 is the determined cDNA sequence for a clone showing homology to Human nuclear-encoded mitochondrial serine hydroxymethyltransferase (SHMT)

SEQ ID NO: 347 is the determined cDNA sequence for a clone showing homology to Homo sapiens natural resistance-associated macrophage protein2 (NRAMP2)

SEQ ID NO: 348 is the determined cDNA sequence for a clone showing homology to Homo sapiens phosphoglucomutase-related protein (PGMRP)

SEQ ID NO: 349 is the determined cDNA sequence for a clone showing homology to Human mRNA for proteosome subunit p40

SEQ ID NO: 350 is the determined cDNA sequence for P777P

SEQ ID NO: 351 is the determined cDNA sequence for P779P

SEQ ID NO: 352 is the determined cDNA sequence for P790P

SEQ ID NO: 353 is the determined cDNA sequence for P784P

SEQ ID NO: 354 is the determined cDNA sequence for P776P

SEQ ID NO: 355 is the determined cDNA sequence for P780P

SEQ ID NO: 356 is the determined cDNA sequence for P544S

SEQ ID NO: 357 is the determined cDNA sequence for P745S

SEQ ID NO: 358 is the determined cDNA sequence for P782P

SEQ ID NO: 359 is the determined cDNA sequence for P783P

SEQ ID NO: 360 is the determined cDNA sequence for unknown 17984

SEQ ID NO: 361 is the determined cDNA sequence for P787P

SEQ ID NO: 362 is the determined cDNA sequence for P788P

SEQ ID NO: 363 is the determined cDNA sequence for unknown 17994

SEQ ID NO: 364 is the determined cDNA sequence for P781P

SEQ ID NO: 365 is the determined cDNA sequence for P785P

SEQ ID NO: 366-375 are the determined cDNA sequences for splice variants of B305D.

SEQ ID NO: 376 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 366.

SEQ ID NO: 377 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 372.

SEQ ID NO: 378 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 373.

SEQ ID NO: 379 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 374.

SEQ ID NO: 380 is the predicted amino acid sequence encoded by the sequence of SEQ ID NO: 375.

SEQ ID NO: 381 is the determined cDNA sequence for B716P.
SEQ ID NO: 382 is the determined full-length cDNA sequence for P711P.
SEQ ID NO: 383 is the predicted amino acid sequence for P711P.
SEQ ID NO: 384 is the cDNA sequence for P1000C.
SEQ ID NO: 385 is the cDNA sequence for CGI-82.
SEQ ID NO:386 is the cDNA sequence for 23320.
SEQ ID NO:387 is the cDNA sequence for CGI-69.
SEQ ID NO:388 is the cDNA sequence for L-idoitol-2-dehydrogenase.
SEQ ID NO:389 is the cDNA sequence for 23379.
SEQ ID NO:390 is the cDNA sequence for 23381.
SEQ ID NO:391 is the cDNA sequence for KIAA0122.
SEQ ID NO:392 is the cDNA sequence for 23399.
SEQ ID NO:393 is the cDNA sequence for a previously identified gene.
SEQ ID NO:394 is the cDNA sequence for HCLBP.
SEQ ID NO:395 is the cDNA sequence for transglutaminase.
SEQ ID NO:396 is the cDNA sequence for a previously identified gene.
SEQ ID NO:397 is the cDNA sequence for PAP.
SEQ ID NO:398 is the cDNA sequence for Ets transcription factor PDEF.
SEQ ID NO:399 is the cDNA sequence for hTGR.
SEQ ID NO:400 is the cDNA sequence for KIAA0295.
SEQ ID NO:401 is the cDNA sequence for 22545.
SEQ ID NO:402 is the cDNA sequence for 22547.
SEQ ID NO:403 is the cDNA sequence for 22548.
SEQ ID NO:404 is the cDNA sequence for 22550.
SEQ ID NO:405 is the cDNA sequence for 22551.
SEQ ID NO:406 is the cDNA sequence for 22552.
SEQ ID NO:407 is the cDNA sequence for 22553.
SEQ ID NO:408 is the cDNA sequence for 22558.
SEQ ID NO:409 is the cDNA sequence for 22562.
SEQ ID NO:410 is the cDNA sequence for 22565.

SEQ ID NO:411 is the cDNA sequence for 22567.
SEQ ID NO:412 is the cDNA sequence for 22568.
SEQ ID NO:413 is the cDNA sequence for 22570.
SEQ ID NO:414 is the cDNA sequence for 22571.
SEQ ID NO:415 is the cDNA sequence for 22572.
SEQ ID NO:416 is the cDNA sequence for 22573.
SEQ ID NO:417 is the cDNA sequence for 22573.
SEQ ID NO:418 is the cDNA sequence for 22575.
SEQ ID NO:419 is the cDNA sequence for 22580.
SEQ ID NO:420 is the cDNA sequence for 22581.
SEQ ID NO:421 is the cDNA sequence for 22582.
SEQ ID NO:422 is the cDNA sequence for 22583.
SEQ ID NO:423 is the cDNA sequence for 22584.
SEQ ID NO:424 is the cDNA sequence for 22585.
SEQ ID NO:425 is the cDNA sequence for 22586.
SEQ ID NO:426 is the cDNA sequence for 22587.
SEQ ID NO:427 is the cDNA sequence for 22588.
SEQ ID NO:428 is the cDNA sequence for 22589.
SEQ ID NO:429 is the cDNA sequence for 22590.
SEQ ID NO:430 is the cDNA sequence for 22591.
SEQ ID NO:431 is the cDNA sequence for 22592.
SEQ ID NO:432 is the cDNA sequence for 22593.
SEQ ID NO:433 is the cDNA sequence for 22594.
SEQ ID NO:434 is the cDNA sequence for 22595.
SEQ ID NO:435 is the cDNA sequence for 22596.
SEQ ID NO:436 is the cDNA sequence for 22847.
SEQ ID NO:437 is the cDNA sequence for 22848.
SEQ ID NO:438 is the cDNA sequence for 22849.
SEQ ID NO:439 is the cDNA sequence for 22851.
SEQ ID NO:440 is the cDNA sequence for 22852.

SEQ ID NO:441 is the cDNA sequence for 22853.
SEQ ID NO:442 is the cDNA sequence for 22854.
SEQ ID NO:443 is the cDNA sequence for 22855.
SEQ ID NO:444 is the cDNA sequence for 22856.
SEQ ID NO:445 is the cDNA sequence for 22857.
SEQ ID NO:446 is the cDNA sequence for 23601.
SEQ ID NO:447 is the cDNA sequence for 23602.
SEQ ID NO:448 is the cDNA sequence for 23605.
SEQ ID NO:449 is the cDNA sequence for 23606.
SEQ ID NO:450 is the cDNA sequence for 23612.
SEQ ID NO:451 is the cDNA sequence for 23614.
SEQ ID NO:452 is the cDNA sequence for 23618.
SEQ ID NO:453 is the cDNA sequence for 23622.
SEQ ID NO:454 is the cDNA sequence for folate hydrolase.
SEQ ID NO:455 is the cDNA sequence for LIM protein.
SEQ ID NO:456 is the cDNA sequence for a known gene.
SEQ ID NO:457 is the cDNA sequence for a known gene.
SEQ ID NO:458 is the cDNA sequence for a previously identified gene.
SEQ ID NO:459 is the cDNA sequence for 23045.
SEQ ID NO:460 is the cDNA sequence for 23032.
SEQ ID NO:461 is the cDNA sequence for 23054.
SEQ ID NOs:462-467 are cDNA sequences for known genes.
SEQ ID NOs:468-471 are cDNA sequences for P710P.
SEQ ID NO:472 is a cDNA sequence for P1001C.
SEQ ID NO:473 is the amino acid sequence for PSMA.
SEQ ID NO:474 is the amino acid sequence for PAP.
SEQ ID NO:475 is the amino acid sequence for PSA.
SEQ ID NO:476 is the amino acid sequence for a fusion protein containing PSA, P703P and P501S.

DETAILED DESCRIPTION OF THE INVENTION

As noted above, the present invention is generally directed to compositions and methods for the therapy and diagnosis of cancer, such as prostate cancer. The compositions described herein may include prostate tumor polypeptides, polynucleotides encoding such polypeptides, binding agents such as antibodies, antigen presenting cells (APCs) and/or immune system cells (*e.g.*, T cells). Polypeptides of the present invention generally comprise at least a portion (such as an immunogenic portion) of a prostate tumor protein or a variant thereof. A "prostate tumor protein" is a protein that is expressed in prostate tumor cells at a level that is at least two fold, and preferably at least five fold, greater than the level of expression in a normal tissue, as determined using a representative assay provided herein. Certain prostate tumor proteins are tumor proteins that react detectably (within an immunoassay, such as an ELISA or Western blot) with antisera of a patient afflicted with prostate cancer. Polynucleotides of the subject invention generally comprise a DNA or RNA sequence that encodes all or a portion of such a polypeptide, or that is complementary to such a sequence. Antibodies are generally immune system proteins, or antigen-binding fragments thereof, that are capable of binding to a polypeptide as described above. Antigen presenting cells include dendritic cells, macrophages, monocytes, fibroblasts and B-cells that express a polypeptide as described above. T cells that may be employed within such compositions are generally T cells that are specific for a polypeptide as described above.

The present invention is based on the discovery of human prostate tumor proteins. Sequences of polynucleotides encoding certain tumor proteins, or portions thereof, are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Sequences of polypeptides comprising at least a portion of a tumor protein are provided in SEQ ID NOs:112-114, 172, 176, 178, 327, 329, 331, 336, 339, 376-380 and 383.

PROSTATE TUMOR PROTEIN POLYNUCLEOTIDES

Any polynucleotide that encodes a prostate tumor protein or a portion or other variant thereof as described herein is encompassed by the present invention. Preferred polynucleotides comprise at least 15 consecutive nucleotides, preferably at least 30 consecutive nucleotides and more preferably at least 45 consecutive nucleotides, that encode a portion of a prostate tumor protein. More preferably, a polynucleotide encodes an immunogenic portion of a prostate tumor protein. Polynucleotides complementary to any such sequences are also encompassed by the present invention. Polynucleotides may be single-stranded (coding or antisense) or double-stranded, and may be DNA (genomic, cDNA or synthetic) or RNA molecules. RNA molecules include HnRNA molecules, which contain introns and correspond to a DNA molecule in a one-to-one manner, and mRNA molecules, which do not contain introns. Additional coding or non-coding sequences may, but need not, be present within a polynucleotide of the present invention, and a polynucleotide may, but need not, be linked to other molecules and/or support materials.

Polynucleotides may comprise a native sequence (*i.e.*, an endogenous sequence that encodes a prostate tumor protein or a portion thereof) or may comprise a variant of such a sequence. Polynucleotide variants may contain one or more substitutions, additions, deletions and/or insertions such that the immunogenicity of the encoded polypeptide is not diminished, relative to a native tumor protein. The effect on the immunogenicity of the encoded polypeptide may generally be assessed as described herein. Variants preferably exhibit at least about 70% identity, more preferably at least about 80% identity and most preferably at least about 90% identity to a polynucleotide sequence that encodes a native prostate tumor protein or a portion thereof.

Two polynucleotide or polypeptide sequences are said to be "identical" if the sequence of nucleotides or amino acids in the two sequences is the same when aligned for maximum correspondence as described below. Comparisons between two sequences are typically performed by comparing the sequences over a comparison window to identify and compare local regions of sequence similarity. A "comparison window" as used herein, refers to a segment of at least about 20 contiguous positions,

usually 30 to about 75, 40 to about 50, in which a sequence may be compared to a reference sequence of the same number of contiguous positions after the two sequences are optimally aligned.

Optimal alignment of sequences for comparison may be conducted using the Megalign program in the Lasergene suite of bioinformatics software (DNASTAR, Inc., Madison, WI), using default parameters. This program embodies several alignment schemes described in the following references: Dayhoff, M.O. (1978) A model of evolutionary change in proteins – Matrices for detecting distant relationships. In Dayhoff, M.O. (ed.) *Atlas of Protein Sequence and Structure*, National Biomedical Research Foundation, Washington DC Vol. 5, Suppl. 3, pp. 345-358; Hein J. (1990) Unified Approach to Alignment and Phylogenies pp. 626-645 *Methods in Enzymology* vol. 183, Academic Press, Inc., San Diego, CA; Higgins, D.G. and Sharp, P.M. (1989) *CABIOS* 5:151-153; Myers, E.W. and Muller W. (1988) *CABIOS* 4:11-17; Robinson, E.D. (1971) *Comb. Theor* 11:105; Santou, N. Nes, M. (1987) *Mol. Biol. Evol.* 4:406-425; Sneath, P.H.A. and Sokal, R.R. (1973) *Numerical Taxonomy – the Principles and Practice of Numerical Taxonomy*, Freeman Press, San Francisco, CA; Wilbur, W.J. and Lipman, D.J. (1983) *Proc. Natl. Acad., Sci. USA* 80:726-730.

Preferably, the “percentage of sequence identity” is determined by comparing two optimally aligned sequences over a window of comparison of at least 20 positions, wherein the portion of the polynucleotide or polypeptide sequence in the comparison window may comprise additions or deletions (*i.e.*, gaps) of 20 percent or less, usually 5 to 15 percent, or 10 to 12 percent, as compared to the reference sequences (which does not comprise additions or deletions) for optimal alignment of the two sequences. The percentage is calculated by determining the number of positions at which the identical nucleic acid bases or amino acid residue occurs in both sequences to yield the number of matched positions, dividing the number of matched positions by the total number of positions in the reference sequence (*i.e.*, the window size) and multiplying the results by 100 to yield the percentage of sequence identity.

Variants may also, or alternatively, be substantially homologous to a native gene, or a portion or complement thereof. Such polynucleotide variants are

capable of hybridizing under moderately stringent conditions to a naturally occurring DNA sequence encoding a native prostate tumor protein (or a complementary sequence). Suitable moderately stringent conditions include prewashing in a solution of 5 X SSC, 0.5% SDS, 1.0 mM EDTA (pH 8.0); hybridizing at 50°C-65°C, 5 X SSC, overnight; followed by washing twice at 65°C for 20 minutes with each of 2X, 0.5X and 0.2X SSC containing 0.1% SDS.

It will be appreciated by those of ordinary skill in the art that, as a result of the degeneracy of the genetic code, there are many nucleotide sequences that encode a polypeptide as described herein. Some of these polynucleotides bear minimal homology to the nucleotide sequence of any native gene. Nonetheless, polynucleotides that vary due to differences in codon usage are specifically contemplated by the present invention. Further, alleles of the genes comprising the polynucleotide sequences provided herein are within the scope of the present invention. Alleles are endogenous genes that are altered as a result of one or more mutations, such as deletions, additions and/or substitutions of nucleotides. The resulting mRNA and protein may, but need not, have an altered structure or function. Alleles may be identified using standard techniques (such as hybridization, amplification and/or database sequence comparison).

Polynucleotides may be prepared using any of a variety of techniques. For example, a polynucleotide may be identified, as described in more detail below, by screening a microarray of cDNAs for tumor-associated expression (*i.e.*, expression that is at least five fold greater in a prostate tumor than in normal tissue, as determined using a representative assay provided herein). Such screens may be performed using a Synteni microarray (Palo Alto, CA) according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Alternatively, polypeptides may be amplified from cDNA prepared from cells expressing the proteins described herein, such as prostate tumor cells. Such polynucleotides may be amplified via polymerase chain reaction (PCR). For this approach, sequence-specific primers may be designed based on the sequences provided herein, and may be purchased or synthesized.

An amplified portion may be used to isolate a full length gene from a suitable library (e.g., a prostate tumor cDNA library) using well known techniques. Within such techniques, a library (cDNA or genomic) is screened using one or more polynucleotide probes or primers suitable for amplification. Preferably, a library is size-selected to include larger molecules. Random primed libraries may also be preferred for identifying 5' and upstream regions of genes. Genomic libraries are preferred for obtaining introns and extending 5' sequences.

For hybridization techniques, a partial sequence may be labeled (e.g., by nick-translation or end-labeling with ^{32}P) using well known techniques. A bacterial or bacteriophage library is then screened by hybridizing filters containing denatured bacterial colonies (or lawns containing phage plaques) with the labeled probe (see Sambrook et al., *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY, 1989). Hybridizing colonies or plaques are selected and expanded, and the DNA is isolated for further analysis. cDNA clones may be analyzed to determine the amount of additional sequence by, for example, PCR using a primer from the partial sequence and a primer from the vector. Restriction maps and partial sequences may be generated to identify one or more overlapping clones. The complete sequence may then be determined using standard techniques, which may involve generating a series of deletion clones. The resulting overlapping sequences are then assembled into a single contiguous sequence. A full length cDNA molecule can be generated by ligating suitable fragments, using well known techniques.

Alternatively, there are numerous amplification techniques for obtaining a full length coding sequence from a partial cDNA sequence. Within such techniques, amplification is generally performed via PCR. Any of a variety of commercially available kits may be used to perform the amplification step. Primers may be designed using, for example, software well known in the art. Primers are preferably 22-30 nucleotides in length, have a GC content of at least 50% and anneal to the target sequence at temperatures of about 68°C to 72°C. The amplified region may be sequenced as described above, and overlapping sequences assembled into a contiguous sequence.

One such amplification technique is inverse PCR (see Triglia et al., *Nucl. Acids Res.* 16:8186, 1988), which uses restriction enzymes to generate a fragment in the known region of the gene. The fragment is then circularized by intramolecular ligation and used as a template for PCR with divergent primers derived from the known region. Within an alternative approach, sequences adjacent to a partial sequence may be retrieved by amplification with a primer to a linker sequence and a primer specific to a known region. The amplified sequences are typically subjected to a second round of amplification with the same linker primer and a second primer specific to the known region. A variation on this procedure, which employs two primers that initiate extension in opposite directions from the known sequence, is described in WO 96/38591. Another such technique is known as "rapid amplification of cDNA ends" or RACE. This technique involves the use of an internal primer and an external primer, which hybridizes to a polyA region or vector sequence, to identify sequences that are 5' and 3' of a known sequence. Additional techniques include capture PCR (Lagerstrom et al., *PCR Methods Applic.* 1:111-19, 1991) and walking PCR (Parker et al., *Nucl. Acids Res.* 19:3055-60, 1991). Other methods employing amplification may also be employed to obtain a full length cDNA sequence.

In certain instances, it is possible to obtain a full length cDNA sequence by analysis of sequences provided in an expressed sequence tag (EST) database, such as that available from GenBank. Searches for overlapping ESTs may generally be performed using well known programs (e.g., NCBI BLAST searches), and such ESTs may be used to generate a contiguous full length sequence.

Certain nucleic acid sequences of cDNA molecules encoding at least a portion of a prostate tumor protein are provided in SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472. Isolation of these polynucleotides is described below. Each of these prostate tumor proteins was overexpressed in prostate tumor tissue.

Polynucleotide variants may generally be prepared by any method known in the art, including chemical synthesis by, for example, solid phase phosphoramidite chemical synthesis. Modifications in a polynucleotide sequence may

also be introduced using standard mutagenesis techniques, such as oligonucleotide-directed site-specific mutagenesis (*see* Adelman et al., *DNA* 2:183, 1983). Alternatively, RNA molecules may be generated by *in vitro* or *in vivo* transcription of DNA sequences encoding a prostate tumor protein, or portion thereof, provided that the DNA is incorporated into a vector with a suitable RNA polymerase promoter (such as T7 or SP6). Certain portions may be used to prepare an encoded polypeptide, as described herein. In addition, or alternatively, a portion may be administered to a patient such that the encoded polypeptide is generated *in vivo* (*e.g.*, by transfecting antigen-presenting cells, such as dendritic cells, with a cDNA construct encoding a prostate tumor polypeptide, and administering the transfected cells to the patient).

A portion of a sequence complementary to a coding sequence (*i.e.*, an antisense polynucleotide) may also be used as a probe or to modulate gene expression. cDNA constructs that can be transcribed into antisense RNA may also be introduced into cells of tissues to facilitate the production of antisense RNA. An antisense polynucleotide may be used, as described herein, to inhibit expression of a tumor protein. Antisense technology can be used to control gene expression through triple-helix formation, which compromises the ability of the double helix to open sufficiently for the binding of polymerases, transcription factors or regulatory molecules (*see* Gee et al., *In* Huber and Carr, *Molecular and Immunologic Approaches*, Futura Publishing Co. (Mt. Kisco, NY; 1994)). Alternatively, an antisense molecule may be designed to hybridize with a control region of a gene (*e.g.*, promoter, enhancer or transcription initiation site), and block transcription of the gene; or to block translation by inhibiting binding of a transcript to ribosomes.

A portion of a coding sequence, or of a complementary sequence, may also be designed as a probe or primer to detect gene expression. Probes may be labeled with a variety of reporter groups, such as radionuclides and enzymes, and are preferably at least 10 nucleotides in length, more preferably at least 20 nucleotides in length and still more preferably at least 30 nucleotides in length. Primers, as noted above, are preferably 22-30 nucleotides in length.

Any polynucleotide may be further modified to increase stability *in vivo*. Possible modifications include, but are not limited to, the addition of flanking sequences at the 5' and/or 3' ends; the use of phosphorothioate or 2' O-methyl rather than phosphodiesterase linkages in the backbone; and/or the inclusion of nontraditional bases such as inosine, queosine and wybutosine, as well as acetyl-, methyl-, thio- and other modified forms of adenine, cytidine, guanine, thymine and uridine.

Nucleotide sequences as described herein may be joined to a variety of other nucleotide sequences using established recombinant DNA techniques. For example, a polynucleotide may be cloned into any of a variety of cloning vectors, including plasmids, phagemids, lambda phage derivatives and cosmids. Vectors of particular interest include expression vectors, replication vectors, probe generation vectors and sequencing vectors. In general, a vector will contain an origin of replication functional in at least one organism, convenient restriction endonuclease sites and one or more selectable markers. Other elements will depend upon the desired use, and will be apparent to those of ordinary skill in the art.

Within certain embodiments, polynucleotides may be formulated so as to permit entry into a cell of a mammal, and expression therein. Such formulations are particularly useful for therapeutic purposes, as described below. Those of ordinary skill in the art will appreciate that there are many ways to achieve expression of a polynucleotide in a target cell, and any suitable method may be employed. For example, a polynucleotide may be incorporated into a viral vector such as, but not limited to, adenovirus, adeno-associated virus, retrovirus, or vaccinia or other pox virus (e.g., avian pox virus). Techniques for incorporating DNA into such vectors are well known to those of ordinary skill in the art. A retroviral vector may additionally transfer or incorporate a gene for a selectable marker (to aid in the identification or selection of transduced cells) and/or a targeting moiety, such as a gene that encodes a ligand for a receptor on a specific target cell, to render the vector target specific. Targeting may also be accomplished using an antibody, by methods known to those of ordinary skill in the art.

Other formulations for therapeutic purposes include colloidal dispersion systems, such as macromolecule complexes, nanocapsules, microspheres, beads, and lipid-based systems including oil-in-water emulsions, micelles, mixed micelles, and liposomes. A preferred colloidal system for use as a delivery vehicle *in vitro* and *in vivo* is a liposome (*i.e.*, an artificial membrane vesicle). The preparation and use of such systems is well known in the art.

PROSTATE TUMOR POLYPEPTIDES

Within the context of the present invention, polypeptides may comprise at least an immunogenic portion of a prostate tumor protein or a variant thereof, as described herein. As noted above, a "prostate tumor protein" is a protein that is expressed by prostate tumor cells. Proteins that are prostate tumor proteins also react detectably within an immunoassay (such as an ELISA) with antisera from a patient with prostate cancer. Polypeptides as described herein may be of any length. Additional sequences derived from the native protein and/or heterologous sequences may be present, and such sequences may (but need not) possess further immunogenic or antigenic properties.

An "immunogenic portion," as used herein is a portion of a protein that is recognized (*i.e.*, specifically bound) by a B-cell and/or T-cell surface antigen receptor. Such immunogenic portions generally comprise at least 5 amino acid residues, more preferably at least 10, and still more preferably at least 20 amino acid residues of a prostate tumor protein or a variant thereof. Certain preferred immunogenic portions include peptides in which an N-terminal leader sequence and/or transmembrane domain have been deleted. Other preferred immunogenic portions may contain a small N- and/or C-terminal deletion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids), relative to the mature protein.

Immunogenic portions may generally be identified using well known techniques, such as those summarized in Paul, *Fundamental Immunology*, 3rd ed., 243-247 (Raven Press, 1993) and references cited therein. Such techniques include screening polypeptides for the ability to react with antigen-specific antibodies, antisera

and/or T-cell lines or clones. As used herein, antisera and antibodies are "antigen-specific" if they specifically bind to an antigen (*i.e.*, they react with the protein in an ELISA or other immunoassay, and do not react detectably with unrelated proteins). Such antisera and antibodies may be prepared as described herein, and using well known techniques. An immunogenic portion of a native prostate tumor protein is a portion that reacts with such antisera and/or T-cells at a level that is not substantially less than the reactivity of the full length polypeptide (*e.g.*, in an ELISA and/or T-cell reactivity assay). Such immunogenic portions may react within such assays at a level that is similar to or greater than the reactivity of the full length polypeptide. Such screens may generally be performed using methods well known to those of ordinary skill in the art, such as those described in Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. For example, a polypeptide may be immobilized on a solid support and contacted with patient sera to allow binding of antibodies within the sera to the immobilized polypeptide. Unbound sera may then be removed and bound antibodies detected using, for example, ¹²⁵I-labeled Protein A.

As noted above, a composition may comprise a variant of a native prostate tumor protein. A polypeptide "variant," as used herein, is a polypeptide that differs from a native prostate tumor protein in one or more substitutions, deletions, additions and/or insertions, such that the immunogenicity of the polypeptide is not substantially diminished. In other words, the ability of a variant to react with antigen-specific antisera may be enhanced or unchanged, relative to the native protein, or may be diminished by less than 50%, and preferably less than 20%, relative to the native protein. Such variants may generally be identified by modifying one of the above polypeptide sequences and evaluating the reactivity of the modified polypeptide with antigen-specific antibodies or antisera as described herein. Preferred variants include those in which one or more portions, such as an N-terminal leader sequence or transmembrane domain, have been removed. Other preferred variants include variants in which a small portion (*e.g.*, 1-30 amino acids, preferably 5-15 amino acids) has been removed from the N- and/or C-terminal of the mature protein. Polypeptide variants preferably exhibit at least about 70%, more preferably at least about 90% and most

preferably at least about 95% identity (determined as described above) to the identified polypeptides.

Preferably, a variant contains conservative substitutions. A "conservative substitution" is one in which an amino acid is substituted for another amino acid that has similar properties, such that one skilled in the art of peptide chemistry would expect the secondary structure and hydropathic nature of the polypeptide to be substantially unchanged. Amino acid substitutions may generally be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity and/or the amphipathic nature of the residues. For example, negatively charged amino acids include aspartic acid and glutamic acid; positively charged amino acids include lysine and arginine; and amino acids with uncharged polar head groups having similar hydrophilicity values include leucine, isoleucine and valine; glycine and alanine; asparagine and glutamine; and serine, threonine, phenylalanine and tyrosine. Other groups of amino acids that may represent conservative changes include: (1) ala, pro, gly, glu, asp, gln, asn, ser, thr; (2) cys, ser, tyr, thr; (3) val, ile, leu, met, ala, phe; (4) lys, arg, his; and (5) phe, tyr, trp, his. A variant may also, or alternatively, contain nonconservative changes. In a preferred embodiment, variant polypeptides differ from a native sequence by substitution, deletion or addition of five amino acids or fewer. Variants may also (or alternatively) be modified by, for example, the deletion or addition of amino acids that have minimal influence on the immunogenicity, secondary structure and hydropathic nature of the polypeptide.

As noted above, polypeptides may comprise a signal (or leader) sequence at the N-terminal end of the protein which co-translationally or post-translationally directs transfer of the protein. The polypeptide may also be conjugated to a linker or other sequence for ease of synthesis, purification or identification of the polypeptide (*e.g.*, poly-His), or to enhance binding of the polypeptide to a solid support. For example, a polypeptide may be conjugated to an immunoglobulin Fc region.

Polypeptides may be prepared using any of a variety of well known techniques. Recombinant polypeptides encoded by DNA sequences as described above may be readily prepared from the DNA sequences using any of a variety of expression

vectors known to those of ordinary skill in the art. Expression may be achieved in any appropriate host cell that has been transformed or transfected with an expression vector containing a DNA molecule that encodes a recombinant polypeptide. Suitable host cells include prokaryotes, yeast and higher eukaryotic cells. Preferably, the host cells employed are *E. coli*, yeast or a mammalian cell line such as COS or CHO. Supernatants from suitable host/vector systems which secrete recombinant protein or polypeptide into culture media may be first concentrated using a commercially available filter. Following concentration, the concentrate may be applied to a suitable purification matrix such as an affinity matrix or an ion exchange resin. Finally, one or more reverse phase HPLC steps can be employed to further purify a recombinant polypeptide.

Portions and other variants having fewer than about 100 amino acids, and generally fewer than about 50 amino acids, may also be generated by synthetic means, using techniques well known to those of ordinary skill in the art. For example, such polypeptides may be synthesized using any of the commercially available solid-phase techniques, such as the Merrifield solid-phase synthesis method, where amino acids are sequentially added to a growing amino acid chain. See Merrifield, *J. Am. Chem. Soc.* 85:2149-2146, 1963. Equipment for automated synthesis of polypeptides is commercially available from suppliers such as Perkin Elmer/Applied BioSystems Division (Foster City, CA), and may be operated according to the manufacturer's instructions.

Within certain specific embodiments, a polypeptide may be a fusion protein that comprises multiple polypeptides as described herein, or that comprises at least one polypeptide as described herein and an unrelated sequence, such as a known tumor protein. A fusion partner may, for example, assist in providing T helper epitopes (an immunological fusion partner), preferably T helper epitopes recognized by humans, or may assist in expressing the protein (an expression enhancer) at higher yields than the native recombinant protein. Certain preferred fusion partners are both immunological and expression enhancing fusion partners. Other fusion partners may be selected so as to increase the solubility of the protein or to enable the protein to be

targeted to desired intracellular compartments. Still further fusion partners include affinity tags, which facilitate purification of the protein.

In certain embodiments, the present invention provides fusion proteins comprising a polypeptide disclosed herein together with at least one of the following known prostate antigens: prostate specific antigen (PSA); prostatic acid phosphatase (PAP); and prostate specific membrane antigen (PSMA). The protein sequences for PSMA, PAP and PSA are provided in SEQ ID NO: 473-475, respectively. In certain embodiments, the fusion proteins of the present invention comprise PSA, PAP and/or PSMA in combination with one or more of the following the inventive antigens: P501S (amino acid sequence provided in SEQ ID NO: 113); P703P (amino acid sequences provided in SEQ ID NO: 327, 329, 331); P704P (cDNA sequence provided in SEQ ID NO: 67); P712P (cDNA sequence provided in SEQ ID NO: 308); P775P (cDNA sequence provided in SEQ ID NO: 311); P776P (cDNA sequence provided in SEQ ID NO: 354); P790P (cDNA sequence provided in SEQ ID NO: 352). The amino acid sequence of a fusion protein of PSA, P703P and P501S is provided in SEQ ID NO: 476. In preferred embodiments, the inventive fusion proteins comprise one of the following combinations of antigens: PSA and P703P; PSA and P501S; PAP and P703P; PAP and P501S; PSMA and P703P; PSMA and P501S; PSA, PAP and P703P; PSA, PAP and P501S; PSA, PAP, PSMA and P703P, PSA, PAP, PSMA and P501S. One of skill in the art will appreciate that the order of polypeptides within a fusion protein can be altered without substantially changing the therapeutic, prophylactic or diagnostic properties of the fusion protein.

The fusion proteins described above are more immunogenic and will be effective in a greater number of prostate cancer patients than any of the individual components alone. The use of multiple antigens in the form of a fusion protein also lessens the likelihood of immunologic escape.

Fusion proteins may generally be prepared using standard techniques, including chemical conjugation. Preferably, a fusion protein is expressed as a recombinant protein, allowing the production of increased levels, relative to a non-fused protein, in an expression system. Briefly, DNA sequences encoding the polypeptide

components may be assembled separately, and ligated into an appropriate expression vector. The 3' end of the DNA sequence encoding one polypeptide component is ligated, with or without a peptide linker, to the 5' end of a DNA sequence encoding the second polypeptide component so that the reading frames of the sequences are in phase. This permits translation into a single fusion protein that retains the biological activity of both component polypeptides.

A peptide linker sequence may be employed to separate the first and the second polypeptide components by a distance sufficient to ensure that each polypeptide folds into its secondary and tertiary structures. Such a peptide linker sequence is incorporated into the fusion protein using standard techniques well known in the art. Suitable peptide linker sequences may be chosen based on the following factors: (1) their ability to adopt a flexible extended conformation; (2) their inability to adopt a secondary structure that could interact with functional epitopes on the first and second polypeptides; and (3) the lack of hydrophobic or charged residues that might react with the polypeptide functional epitopes. Preferred peptide linker sequences contain Gly, Asn and Ser residues. Other near neutral amino acids, such as Thr and Ala may also be used in the linker sequence. Amino acid sequences which may be usefully employed as linkers include those disclosed in Maratea et al., *Gene* 40:39-46, 1985; Murphy et al., *Proc. Natl. Acad. Sci. USA* 83:8258-8262, 1986; U.S. Patent No. 4,935,233 and U.S. Patent No. 4,751,180. The linker sequence may generally be from 1 to about 50 amino acids in length. Linker sequences are not required when the first and second polypeptides have non-essential N-terminal amino acid regions that can be used to separate the functional domains and prevent steric interference.

The ligated DNA sequences are operably linked to suitable transcriptional or translational regulatory elements. The regulatory elements responsible for expression of DNA are located only 5' to the DNA sequence encoding the first polypeptides. Similarly, stop codons required to end translation and transcription termination signals are only present 3' to the DNA sequence encoding the second polypeptide.

Fusion proteins are also provided that comprise a polypeptide of the present invention together with an unrelated immunogenic protein. Preferably the immunogenic protein is capable of eliciting a recall response. Examples of such proteins include tetanus, tuberculosis and hepatitis proteins (*see*, for example, Stoute et al. *New Engl. J. Med.*, 336:86-91, 1997).

Within preferred embodiments, an immunological fusion partner is derived from protein D, a surface protein of the gram-negative bacterium *Haemophilus influenza B* (WO 91/18926). Preferably, a protein D derivative comprises approximately the first third of the protein (*e.g.*, the first N-terminal 100-110 amino acids), and a protein D derivative may be lipidated. Within certain preferred embodiments, the first 109 residues of a Lipoprotein D fusion partner is included on the N-terminus to provide the polypeptide with additional exogenous T-cell epitopes and to increase the expression level in *E. coli* (thus functioning as an expression enhancer). The lipid tail ensures optimal presentation of the antigen to antigen presenting cells. Other fusion partners include the non-structural protein from influenzae virus, NS1 (hemagglutinin). Typically, the N-terminal 81 amino acids are used, although different fragments that include T-helper epitopes may be used.

In another embodiment, the immunological fusion partner is the protein known as LYTA, or a portion thereof (preferably a C-terminal portion). LYTA is derived from *Streptococcus pneumoniae*, which synthesizes an N-acetyl-L-alanine amidase known as amidase LYTA (encoded by the *LytA* gene; *Gene* 43:265-292, 1986). LYTA is an autolysin that specifically degrades certain bonds in the peptidoglycan backbone. The C-terminal domain of the LYTA protein is responsible for the affinity to the choline or to some choline analogues such as DEAE. This property has been exploited for the development of *E. coli* C-LYTA expressing plasmids useful for expression of fusion proteins. Purification of hybrid proteins containing the C-LYTA fragment at the amino terminus has been described (*see Biotechnology* 10:795-798, 1992). Within a preferred embodiment, a repeat portion of LYTA may be incorporated into a fusion protein. A repeat portion is found in the C-

terminal region starting at residue 178. A particularly preferred repeat portion incorporates residues 188-305.

In general, polypeptides (including fusion proteins) and polynucleotides as described herein are isolated. An "isolated" polypeptide or polynucleotide is one that is removed from its original environment. For example, a naturally-occurring protein is isolated if it is separated from some or all of the coexisting materials in the natural system. Preferably, such polypeptides are at least about 90% pure, more preferably at least about 95% pure and most preferably at least about 99% pure. A polynucleotide is considered to be isolated if, for example, it is cloned into a vector that is not a part of the natural environment.

BINDING AGENTS

The present invention further provides agents, such as antibodies and antigen-binding fragments thereof, that specifically bind to a prostate tumor protein. As used herein, an antibody, or antigen-binding fragment thereof, is said to "specifically bind" to a prostate tumor protein if it reacts at a detectable level (within, for example, an ELISA) with a prostate tumor protein, and does not react detectably with unrelated proteins under similar conditions. As used herein, "binding" refers to a noncovalent association between two separate molecules such that a complex is formed. The ability to bind may be evaluated by, for example, determining a binding constant for the formation of the complex. The binding constant is the value obtained when the concentration of the complex is divided by the product of the component concentrations. In general, two compounds are said to "bind," in the context of the present invention, when the binding constant for complex formation exceeds about 10^3 L/mol. The binding constant may be determined using methods well known in the art.

Binding agents may be further capable of differentiating between patients with and without a cancer, such as prostate cancer, using the representative assays provided herein. In other words, antibodies or other binding agents that bind to a prostate tumor protein will generate a signal indicating the presence of a cancer in at least about 20% of patients with the disease, and will generate a negative signal

indicating the absence of the disease in at least about 90% of individuals without the cancer. To determine whether a binding agent satisfies this requirement, biological samples (*e.g.*, blood, sera, urine and/or tumor biopsies) from patients with and without a cancer (as determined using standard clinical tests) may be assayed as described herein for the presence of polypeptides that bind to the binding agent. It will be apparent that a statistically significant number of samples with and without the disease should be assayed. Each binding agent should satisfy the above criteria; however, those of ordinary skill in the art will recognize that binding agents may be used in combination to improve sensitivity.

Any agent that satisfies the above requirements may be a binding agent. For example, a binding agent may be a ribosome, with or without a peptide component, an RNA molecule or a polypeptide. In a preferred embodiment, a binding agent is an antibody or an antigen-binding fragment thereof. Antibodies may be prepared by any of a variety of techniques known to those of ordinary skill in the art. *See, e.g.*, Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, antibodies can be produced by cell culture techniques, including the generation of monoclonal antibodies as described herein, or via transfection of antibody genes into suitable bacterial or mammalian cell hosts, in order to allow for the production of recombinant antibodies. In one technique, an immunogen comprising the polypeptide is initially injected into any of a wide variety of mammals (*e.g.*, mice, rats, rabbits, sheep or goats). In this step, the polypeptides of this invention may serve as the immunogen without modification. Alternatively, particularly for relatively short polypeptides, a superior immune response may be elicited if the polypeptide is joined to a carrier protein, such as bovine serum albumin or keyhole limpet hemocyanin. The immunogen is injected into the animal host, preferably according to a predetermined schedule incorporating one or more booster immunizations, and the animals are bled periodically. Polyclonal antibodies specific for the polypeptide may then be purified from such antisera by, for example, affinity chromatography using the polypeptide coupled to a suitable solid support.

Monoclonal antibodies specific for an antigenic polypeptide of interest may be prepared, for example, using the technique of Kohler and Milstein, *Eur. J. Immunol.* 6:511-519, 1976, and improvements thereto. Briefly, these methods involve the preparation of immortal cell lines capable of producing antibodies having the desired specificity (*i.e.*, reactivity with the polypeptide of interest). Such cell lines may be produced, for example, from spleen cells obtained from an animal immunized as described above. The spleen cells are then immortalized by, for example, fusion with a myeloma cell fusion partner, preferably one that is syngeneic with the immunized animal. A variety of fusion techniques may be employed. For example, the spleen cells and myeloma cells may be combined with a nonionic detergent for a few minutes and then plated at low density on a selective medium that supports the growth of hybrid cells, but not myeloma cells. A preferred selection technique uses HAT (hypoxanthine, aminopterin, thymidine) selection. After a sufficient time, usually about 1 to 2 weeks, colonies of hybrids are observed. Single colonies are selected and their culture supernatants tested for binding activity against the polypeptide. Hybridomas having high reactivity and specificity are preferred.

Monoclonal antibodies may be isolated from the supernatants of growing hybridoma colonies. In addition, various techniques may be employed to enhance the yield, such as injection of the hybridoma cell line into the peritoneal cavity of a suitable vertebrate host, such as a mouse. Monoclonal antibodies may then be harvested from the ascites fluid or the blood. Contaminants may be removed from the antibodies by conventional techniques, such as chromatography, gel filtration, precipitation, and extraction. The polypeptides of this invention may be used in the purification process in, for example, an affinity chromatography step.

Within certain embodiments, the use of antigen-binding fragments of antibodies may be preferred. Such fragments include Fab fragments, which may be prepared using standard techniques. Briefly, immunoglobulins may be purified from rabbit serum by affinity chromatography on Protein A bead columns (Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988) and digested

by papain to yield Fab and Fc fragments. The Fab and Fc fragments may be separated by affinity chromatography on protein A bead columns.

Monoclonal antibodies of the present invention may be coupled to one or more therapeutic agents. Suitable agents in this regard include radionuclides, differentiation inducers, drugs, toxins, and derivatives thereof. Preferred radionuclides include ^{90}Y , ^{123}I , ^{125}I , ^{131}I , ^{186}Re , ^{188}Re , ^{211}At , and ^{212}Bi . Preferred drugs include methotrexate, and pyrimidine and purine analogs. Preferred differentiation inducers include phorbol esters and butyric acid. Preferred toxins include ricin, abrin, diphtheria toxin, cholera toxin, gelonin, *Pseudomonas* exotoxin, Shigella toxin, and pokeweed antiviral protein.

A therapeutic agent may be coupled (*e.g.*, covalently bonded) to a suitable monoclonal antibody either directly or indirectly (*e.g.*, via a linker group). A direct reaction between an agent and an antibody is possible when each possesses a substituent capable of reacting with the other. For example, a nucleophilic group, such as an amino or sulfhydryl group, on one may be capable of reacting with a carbonyl-containing group, such as an anhydride or an acid halide, or with an alkyl group containing a good leaving group (*e.g.*, a halide) on the other.

Alternatively, it may be desirable to couple a therapeutic agent and an antibody via a linker group. A linker group can function as a spacer to distance an antibody from an agent in order to avoid interference with binding capabilities. A linker group can also serve to increase the chemical reactivity of a substituent on an agent or an antibody, and thus increase the coupling efficiency. An increase in chemical reactivity may also facilitate the use of agents, or functional groups on agents, which otherwise would not be possible.

It will be evident to those skilled in the art that a variety of bifunctional or polyfunctional reagents, both homo- and hetero-functional (such as those described in the catalog of the Pierce Chemical Co., Rockford, IL), may be employed as the linker group. Coupling may be effected, for example, through amino groups, carboxyl groups, sulfhydryl groups or oxidized carbohydrate residues. There are numerous references describing such methodology, *e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.

Where a therapeutic agent is more potent when free from the antibody portion of the immunoconjugates of the present invention, it may be desirable to use a linker group which is cleavable during or upon internalization into a cell. A number of different cleavable linker groups have been described. The mechanisms for the intracellular release of an agent from these linker groups include cleavage by reduction of a disulfide bond (*e.g.*, U.S. Patent No. 4,489,710, to Spitler), by irradiation of a photolabile bond (*e.g.*, U.S. Patent No. 4,625,014, to Senter et al.), by hydrolysis of derivatized amino acid side chains (*e.g.*, U.S. Patent No. 4,638,045, to Kohn et al.), by serum complement-mediated hydrolysis (*e.g.*, U.S. Patent No. 4,671,958, to Rodwell et al.), and acid-catalyzed hydrolysis (*e.g.*, U.S. Patent No. 4,569,789, to Blattler et al.).

It may be desirable to couple more than one agent to an antibody. In one embodiment, multiple molecules of an agent are coupled to one antibody molecule. In another embodiment, more than one type of agent may be coupled to one antibody. Regardless of the particular embodiment, immunoconjugates with more than one agent may be prepared in a variety of ways. For example, more than one agent may be coupled directly to an antibody molecule, or linkers which provide multiple sites for attachment can be used. Alternatively, a carrier can be used.

A carrier may bear the agents in a variety of ways, including covalent bonding either directly or via a linker group. Suitable carriers include proteins such as albumins (*e.g.*, U.S. Patent No. 4,507,234, to Kato et al.), peptides and polysaccharides such as aminodextran (*e.g.*, U.S. Patent No. 4,699,784, to Shih et al.). A carrier may also bear an agent by noncovalent bonding or by encapsulation, such as within a liposome vesicle (*e.g.*, U.S. Patent Nos. 4,429,008 and 4,873,088). Carriers specific for radionuclide agents include radiohalogenated small molecules and chelating compounds. For example, U.S. Patent No. 4,735,792 discloses representative radiohalogenated small molecules and their synthesis. A radionuclide chelate may be formed from chelating compounds that include those containing nitrogen and sulfur atoms as the donor atoms for binding the metal, or metal oxide, radionuclide. For example, U.S. Patent No. 4,673,562, to Davison et al. discloses representative chelating compounds and their synthesis.

A variety of routes of administration for the antibodies and immunoconjugates may be used. Typically, administration will be intravenous, intramuscular, subcutaneous or in the bed of a resected tumor. It will be evident that the precise dose of the antibody/immunoconjugate will vary depending upon the antibody used, the antigen density on the tumor, and the rate of clearance of the antibody.

T CELLS

Immunotherapeutic compositions may also, or alternatively, comprise T cells specific for a prostate tumor protein. Such cells may generally be prepared *in vitro* or *ex vivo*, using standard procedures. For example, T cells may be isolated from bone marrow, peripheral blood, or a fraction of bone marrow or peripheral blood of a patient, using a commercially available cell separation system, such as the CEPRATE™ system, available from CellPro Inc., Bothell WA (*see also* U.S. Patent No. 5,240,856; U.S. Patent No. 5,215,926; WO 89/06280; WO 91/16116 and WO 92/07243). Alternatively, T cells may be derived from related or unrelated humans, non-human mammals, cell lines or cultures.

T cells may be stimulated with a prostate tumor polypeptide, polynucleotide encoding a prostate tumor polypeptide and/or an antigen presenting cell (APC) that expresses such a polypeptide. Such stimulation is performed under conditions and for a time sufficient to permit the generation of T cells that are specific for the polypeptide. Preferably, a prostate tumor polypeptide or polynucleotide is present within a delivery vehicle, such as a microsphere, to facilitate the generation of specific T cells.

T cells are considered to be specific for a prostate tumor polypeptide if the T cells kill target cells coated with the polypeptide or expressing a gene encoding the polypeptide. T cell specificity may be evaluated using any of a variety of standard techniques. For example, within a chromium release assay or proliferation assay, a stimulation index of more than two fold increase in lysis and/or proliferation, compared to negative controls, indicates T cell specificity. Such assays may be performed, for example, as described in Chen et al., *Cancer Res.* 54:1065-1070, 1994. Alternatively,

detection of the proliferation of T cells may be accomplished by a variety of known techniques. For example, T cell proliferation can be detected by measuring an increased rate of DNA synthesis (*e.g.*, by pulse-labeling cultures of T cells with tritiated thymidine and measuring the amount of tritiated thymidine incorporated into DNA). Contact with a prostate tumor polypeptide (100 ng/ml - 100 µg/ml, preferably 200 ng/ml - 25 µg/ml) for 3 - 7 days should result in at least a two fold increase in proliferation of the T cells. Contact as described above for 2-3 hours should result in activation of the T cells, as measured using standard cytokine assays in which a two fold increase in the level of cytokine release (*e.g.*, TNF or IFN-γ) is indicative of T cell activation (*see* Coligan et al., Current Protocols in Immunology, vol. 1, Wiley Interscience (Greene 1998)). T cells that have been activated in response to a prostate tumor polypeptide, polynucleotide or polypeptide-expressing APC may be CD4⁺ and/or CD8⁺. Prostate tumor protein-specific T cells may be expanded using standard techniques. Within preferred embodiments, the T cells are derived from either a patient or a related, or unrelated, donor and are administered to the patient following stimulation and expansion.

For therapeutic purposes, CD4⁺ or CD8⁺ T cells that proliferate in response to a prostate tumor polypeptide, polynucleotide or APC can be expanded in number either *in vitro* or *in vivo*. Proliferation of such T cells *in vitro* may be accomplished in a variety of ways. For example, the T cells can be re-exposed to a prostate tumor polypeptide, or a short peptide corresponding to an immunogenic portion of such a polypeptide, with or without the addition of T cell growth factors, such as interleukin-2, and/or stimulator cells that synthesize a prostate tumor polypeptide. Alternatively, one or more T cells that proliferate in the presence of a prostate tumor protein can be expanded in number by cloning. Methods for cloning cells are well known in the art, and include limiting dilution.

PHARMACEUTICAL COMPOSITIONS AND VACCINES

Within certain aspects, polypeptides, polynucleotides, T cells and/or binding agents disclosed herein may be incorporated into pharmaceutical compositions

or immunogenic compositions (*i.e.*, vaccines). Pharmaceutical compositions comprise one or more such compounds and a physiologically acceptable carrier. Vaccines may comprise one or more such compounds and a non-specific immune response enhancer. A non-specific immune response enhancer may be any substance that enhances an immune response to an exogenous antigen. Examples of non-specific immune response enhancers include adjuvants, biodegradable microspheres (*e.g.*, polylactic galactide) and liposomes (into which the compound is incorporated; *see e.g.*, Fullerton, U.S. Patent No. 4,235,877). Vaccine preparation is generally described in, for example, M.F. Powell and M.J. Newman, eds., "Vaccine Design (the subunit and adjuvant approach)," Plenum Press (NY, 1995). Pharmaceutical compositions and vaccines within the scope of the present invention may also contain other compounds, which may be biologically active or inactive. For example, one or more immunogenic portions of other tumor antigens may be present, either incorporated into a fusion polypeptide or as a separate compound, within the composition or vaccine.

A pharmaceutical composition or vaccine may contain DNA encoding one or more of the polypeptides as described above, such that the polypeptide is generated *in situ*. As noted above, the DNA may be present within any of a variety of delivery systems known to those of ordinary skill in the art, including nucleic acid expression systems, bacteria and viral expression systems. Numerous gene delivery techniques are well known in the art, such as those described by Rolland, *Crit. Rev. Therap. Drug Carrier Systems* 15:143-198, 1998, and references cited therein. Appropriate nucleic acid expression systems contain the necessary DNA sequences for expression in the patient (such as a suitable promoter and terminating signal). Bacterial delivery systems involve the administration of a bacterium (such as *Bacillus-Calmette-Guerrin*) that expresses an immunogenic portion of the polypeptide on its cell surface or secretes such an epitope. In a preferred embodiment, the DNA may be introduced using a viral expression system (*e.g.*, vaccinia or other pox virus, retrovirus, or adenovirus), which may involve the use of a non-pathogenic (defective), replication competent virus. Suitable systems are disclosed, for example, in Fisher-Hoch et al., *Proc. Natl. Acad. Sci. USA* 86:317-321, 1989; Flexner et al., *Ann. N.Y. Acad. Sci.* 569:86-103, 1989; Flexner

et al., *Vaccine* 8:17-21, 1990; U.S. Patent Nos. 4,603,112, 4,769,330, and 5,017,487; WO 89/01973; U.S. Patent No. 4,777,127; GB 2,200,651; EP 0,345,242; WO 91/02805; Berkner, *Biotechniques* 6:616-627, 1988; Rosenfeld et al., *Science* 252:431-434, 1991; Kolls et al., *Proc. Natl. Acad. Sci. USA* 91:215-219, 1994; Kass-Eisler et al., *Proc. Natl. Acad. Sci. USA* 90:11498-11502, 1993; Guzman et al., *Circulation* 88:2838-2848, 1993; and Guzman et al., *Cir. Res.* 73:1202-1207, 1993. Techniques for incorporating DNA into such expression systems are well known to those of ordinary skill in the art. The DNA may also be "naked," as described, for example, in Ulmer et al., *Science* 259:1745-1749, 1993 and reviewed by Cohen, *Science* 259:1691-1692, 1993. The uptake of naked DNA may be increased by coating the DNA onto biodegradable beads, which are efficiently transported into the cells.

While any suitable carrier known to those of ordinary skill in the art may be employed in the pharmaceutical compositions of this invention, the type of carrier will vary depending on the mode of administration. Compositions of the present invention may be formulated for any appropriate manner of administration, including for example, topical, oral, nasal, intravenous, intracranial, intraperitoneal, subcutaneous or intramuscular administration. For parenteral administration, such as subcutaneous injection, the carrier preferably comprises water, saline, alcohol, a fat, a wax or a buffer. For oral administration, any of the above carriers or a solid carrier, such as mannitol, lactose, starch, magnesium stearate, sodium saccharine, talcum, cellulose, glucose, sucrose, and magnesium carbonate, may be employed. Biodegradable microspheres (e.g., polylactate polyglycolate) may also be employed as carriers for the pharmaceutical compositions of this invention. Suitable biodegradable microspheres are disclosed, for example, in U.S. Patent Nos. 4,897,268 and 5,075,109.

Such compositions may also comprise buffers (e.g., neutral buffered saline or phosphate buffered saline), carbohydrates (e.g., glucose, mannose, sucrose or dextrans), mannitol, proteins, polypeptides or amino acids such as glycine, antioxidants, chelating agents such as EDTA or glutathione, adjuvants (e.g., aluminum hydroxide) and/or preservatives. Alternatively, compositions of the present invention may be

formulated as a lyophilizate. Compounds may also be encapsulated within liposomes using well known technology.

Any of a variety of non-specific immune response enhancers may be employed in the vaccines of this invention. For example, an adjuvant may be included. Most adjuvants contain a substance designed to protect the antigen from rapid catabolism, such as aluminum hydroxide or mineral oil, and a stimulator of immune responses, such as lipid A, *Bordetella pertussis* or *Mycobacterium tuberculosis* derived proteins. Suitable adjuvants are commercially available as, for example, Freund's Incomplete Adjuvant and Complete Adjuvant (Difco Laboratories, Detroit, MI); Merck Adjuvant 65 (Merck and Company, Inc., Rahway, NJ); aluminum salts such as aluminum hydroxide gel (alum) or aluminum phosphate; salts of calcium, iron or zinc; an insoluble suspension of acylated tyrosine; acylated sugars; cationically or anionically derivatized polysaccharides; polyphosphazenes; biodegradable microspheres; monophosphoryl lipid A and quil A. Cytokines, such as GM-CSF or interleukin-2, -7, or -12, may also be used as adjuvants.

Within the vaccines provided herein, the adjuvant composition is preferably designed to induce an immune response predominantly of the Th1 type. High levels of Th1-type cytokines (e.g., IFN- γ , IL-2 and IL-12) tend to favor the induction of cell mediated immune responses to an administered antigen. In contrast, high levels of Th2-type cytokines (e.g., IL-4, IL-5, IL-6, IL-10 and TNF- β) tend to favor the induction of humoral immune responses. Following application of a vaccine as provided herein, a patient will support an immune response that includes Th1- and Th2-type responses. Within a preferred embodiment, in which a response is predominantly Th1-type, the level of Th1-type cytokines will increase to a greater extent than the level of Th2-type cytokines. The levels of these cytokines may be readily assessed using standard assays. For a review of the families of cytokines, see Mosmann and Coffman, *Ann. Rev. Immunol.* 7:145-173, 1989.

Preferred adjuvants for use in eliciting a predominantly Th1-type response include, for example, a combination of monophosphoryl lipid A, preferably 3-de-O-acylated monophosphoryl lipid A (3D-MPL), together with an aluminum salt.

MPL adjuvants are available from Ribi ImmunoChem Research Inc. (Hamilton, MT; see US Patent Nos. 4,436,727; 4,877,611; 4,866,034 and 4,912,094). CpG-containing oligonucleotides (in which the CpG dinucleotide is unmethylated) also induce a predominantly Th1 response. Such oligonucleotides are well known and are described, for example, in WO 96/02555. Another preferred adjuvant is a saponin, preferably QS21, which may be used alone or in combination with other adjuvants. For example, an enhanced system involves the combination of a monophosphoryl lipid A and saponin derivative, such as the combination of QS21 and 3D-MPL as described in WO 94/00153, or a less reactogenic composition where the QS21 is quenched with cholesterol, as described in WO 96/33739. Other preferred formulations comprises an oil-in-water emulsion and tocopherol. A particularly potent adjuvant formulation involving QS21, 3D-MPL and tocopherol in an oil-in-water emulsion is described in WO 95/17210. Any vaccine provided herein may be prepared using well known methods that result in a combination of antigen, immune response enhancer and a suitable carrier or excipient.

The compositions described herein may be administered as part of a sustained release formulation (*i.e.*, a formulation such as a capsule or sponge that effects a slow release of compound following administration). Such formulations may generally be prepared using well known technology and administered by, for example, oral, rectal or subcutaneous implantation, or by implantation at the desired target site. Sustained-release formulations may contain a polypeptide, polynucleotide or antibody dispersed in a carrier matrix and/or contained within a reservoir surrounded by a rate controlling membrane. Carriers for use within such formulations are biocompatible, and may also be biodegradable; preferably the formulation provides a relatively constant level of active component release. The amount of active compound contained within a sustained release formulation depends upon the site of implantation, the rate and expected duration of release and the nature of the condition to be treated or prevented.

Any of a variety of delivery vehicles may be employed within pharmaceutical compositions and vaccines to facilitate production of an antigen-specific

immune response that targets tumor cells. Delivery vehicles include antigen presenting cells (APCs), such as dendritic cells, macrophages, B cells, monocytes and other cells that may be engineered to be efficient APCs. Such cells may, but need not, be genetically modified to increase the capacity for presenting the antigen, to improve activation and/or maintenance of the T cell response, to have anti-tumor effects *per se* and/or to be immunologically compatible with the receiver (*i.e.*, matched HLA haplotype). APCs may generally be isolated from any of a variety of biological fluids and organs, including tumor and peritumoral tissues, and may be autologous, allogeneic, syngeneic or xenogeneic cells.

Certain preferred embodiments of the present invention use dendritic cells or progenitors thereof as antigen-presenting cells. Dendritic cells are highly potent APCs (Banchereau and Steinman, *Nature* 392:245-251, 1998) and have been shown to be effective as a physiological adjuvant for eliciting prophylactic or therapeutic antitumor immunity (*see* Timmerman and Levy, *Ann. Rev. Med.* 50:507-529, 1999). In general, dendritic cells may be identified based on their typical shape (stellate *in situ*, with marked cytoplasmic processes (dendrites) visible *in vitro*) and based on the lack of differentiation markers of B cells (CD19 and CD20), T cells (CD3), monocytes (CD14) and natural killer cells (CD56), as determined using standard assays. Dendritic cells may, of course, be engineered to express specific cell-surface receptors or ligands that are not commonly found on dendritic cells *in vivo* or *ex vivo*, and such modified dendritic cells are contemplated by the present invention. As an alternative to dendritic cells, secreted vesicles antigen-loaded dendritic cells (called exosomes) may be used within a vaccine (*see* Zitvogel et al., *Nature Med.* 4:594-600, 1998).

Dendritic cells and progenitors may be obtained from peripheral blood, bone marrow, tumor-infiltrating cells, peritumoral tissues-infiltrating cells, lymph nodes, spleen, skin, umbilical cord blood or any other suitable tissue or fluid. For example, dendritic cells may be differentiated *ex vivo* by adding a combination of cytokines such as GM-CSF, IL-4, IL-13 and/or TNF α to cultures of monocytes harvested from peripheral blood. Alternatively, CD34 positive cells harvested from peripheral blood, umbilical cord blood or bone marrow may be differentiated into

dendritic cells by adding to the culture medium combinations of GM-CSF, IL-3, TNF α , CD40 ligand, LPS, flt3 ligand and/or other compound(s) that induce maturation and proliferation of dendritic cells.

Dendritic cells are conveniently categorized as "immature" and "mature" cells, which allows a simple way to discriminate between two well characterized phenotypes. However, this nomenclature should not be construed to exclude all possible intermediate stages of differentiation. Immature dendritic cells are characterized as APC with a high capacity for antigen uptake and processing, which correlates with the high expression of Fc γ receptor, mannose receptor and DEC-205 marker. The mature phenotype is typically characterized by a lower expression of these markers, but a high expression of cell surface molecules responsible for T cell activation such as class I and class II MHC, adhesion molecules (*e.g.*, CD54 and CD11) and costimulatory molecules (*e.g.*, CD40, CD80 and CD86).

APCs may generally be transfected with a polynucleotide encoding a prostate tumor protein (or portion or other variant thereof) such that the prostate tumor polypeptide, or an immunogenic portion thereof, is expressed on the cell surface. Such transfection may take place *ex vivo*, and a composition or vaccine comprising such transfected cells may then be used for therapeutic purposes, as described herein. Alternatively, a gene delivery vehicle that targets a dendritic or other antigen presenting cell may be administered to a patient, resulting in transfection that occurs *in vivo*. *In vivo* and *ex vivo* transfection of dendritic cells, for example, may generally be performed using any methods known in the art, such as those described in WO 97/24447, or the gene gun approach described by Mahvi et al., *Immunology and cell Biology* 75:456-460, 1997. Antigen loading of dendritic cells may be achieved by incubating dendritic cells or progenitor cells with the prostate tumor polypeptide, DNA (naked or within a plasmid vector) or RNA; or with antigen-expressing recombinant bacterium or viruses (*e.g.*, vaccinia, fowlpox, adenovirus or lentivirus vectors). Prior to loading, the polypeptide may be covalently conjugated to an immunological partner that provides T cell help (*e.g.*, a carrier molecule). Alternatively, a dendritic cell may be

pulsed with a non-conjugated immunological partner, separately or in the presence of the polypeptide.

CANCER THERAPY

In further aspects of the present invention, the compositions described herein may be used for immunotherapy of cancer, such as prostate cancer. Within such methods, pharmaceutical compositions and vaccines are typically administered to a patient. As used herein, a "patient" refers to any warm-blooded animal, preferably a human. A patient may or may not be afflicted with cancer. Accordingly, the above pharmaceutical compositions and vaccines may be used to prevent the development of a cancer or to treat a patient afflicted with a cancer. A cancer may be diagnosed using criteria generally accepted in the art, including the presence of a malignant tumor. Pharmaceutical compositions and vaccines may be administered either prior to or following surgical removal of primary tumors and/or treatment such as administration of radiotherapy or conventional chemotherapeutic drugs.

Within certain embodiments, immunotherapy may be active immunotherapy, in which treatment relies on the *in vivo* stimulation of the endogenous host immune system to react against tumors with the administration of immune response-modifying agents (such as polypeptides and polynucleotides disclosed herein).

Within other embodiments, immunotherapy may be passive immunotherapy, in which treatment involves the delivery of agents with established tumor-immune reactivity (such as effector cells or antibodies) that can directly or indirectly mediate antitumor effects and does not necessarily depend on an intact host immune system. Examples of effector cells include T cells as discussed above, T lymphocytes (such as CD8⁺ cytotoxic T lymphocytes and CD4⁺ T-helper tumor-infiltrating lymphocytes), killer cells (such as Natural Killer cells and lymphokine-activated killer cells), B cells and antigen-presenting cells (such as dendritic cells and macrophages) expressing a polypeptide provided herein. T cell receptors and antibody receptors specific for the polypeptides recited herein may be cloned, expressed and transferred into other vectors or effector cells for adoptive immunotherapy. The

polypeptides provided herein may also be used to generate antibodies or anti-idiotypic antibodies (as described above and in U.S. Patent No. 4,918,164) for passive immunotherapy.

Effector cells may generally be obtained in sufficient quantities for adoptive immunotherapy by growth *in vitro*, as described herein. Culture conditions for expanding single antigen-specific effector cells to several billion in number with retention of antigen recognition *in vivo* are well known in the art. Such *in vitro* culture conditions typically use intermittent stimulation with antigen, often in the presence of cytokines (such as IL-2) and non-dividing feeder cells. As noted above, immunoreactive polypeptides as provided herein may be used to rapidly expand antigen-specific T cell cultures in order to generate a sufficient number of cells for immunotherapy. In particular, antigen-presenting cells, such as dendritic, macrophage, monocyte, fibroblast or B cells, may be pulsed with immunoreactive polypeptides or transfected with one or more polynucleotides using standard techniques well known in the art. For example, antigen-presenting cells can be transfected with a polynucleotide having a promoter appropriate for increasing expression in a recombinant virus or other expression system. Cultured effector cells for use in therapy must be able to grow and distribute widely, and to survive long term *in vivo*. Studies have shown that cultured effector cells can be induced to grow *in vivo* and to survive long term in substantial numbers by repeated stimulation with antigen supplemented with IL-2 (*see, for example, Cheever et al., Immunological Reviews 157:177, 1997*).

Alternatively, a vector expressing a polypeptide recited herein may be introduced into antigen presenting cells taken from a patient and clonally propagated *ex vivo* for transplant back into the same patient. Transfected cells may be reintroduced into the patient using any means known in the art, preferably in sterile form by intravenous, intracavitary, intraperitoneal or intratumor administration.

Routes and frequency of administration of the therapeutic compositions disclosed herein, as well as dosage, will vary from individual to individual, and may be readily established using standard techniques. In general, the pharmaceutical compositions and vaccines may be administered by injection (*e.g., intracutaneous,*

intramuscular, intravenous or subcutaneous), intranasally (*e.g.*, by aspiration) or orally. Preferably, between 1 and 10 doses may be administered over a 52 week period. Preferably, 6 doses are administered, at intervals of 1 month, and booster vaccinations may be given periodically thereafter. Alternate protocols may be appropriate for individual patients. A suitable dose is an amount of a compound that, when administered as described above, is capable of promoting an anti-tumor immune response, and is at least 10-50% above the basal (*i.e.*, untreated) level. Such response can be monitored by measuring the anti-tumor antibodies in a patient or by vaccine-dependent generation of cytolytic effector cells capable of killing the patient's tumor cells *in vitro*. Such vaccines should also be capable of causing an immune response that leads to an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial or longer disease-free survival) in vaccinated patients as compared to non-vaccinated patients. In general, for pharmaceutical compositions and vaccines comprising one or more polypeptides, the amount of each polypeptide present in a dose ranges from about 100 μ g to 5 mg per kg of host. Suitable dose sizes will vary with the size of the patient, but will typically range from about 0.1 mL to about 5 mL.

In general, an appropriate dosage and treatment regimen provides the active compound(s) in an amount sufficient to provide therapeutic and/or prophylactic benefit. Such a response can be monitored by establishing an improved clinical outcome (*e.g.*, more frequent remissions, complete or partial, or longer disease-free survival) in treated patients as compared to non-treated patients. Increases in preexisting immune responses to a prostate tumor protein generally correlate with an improved clinical outcome. Such immune responses may generally be evaluated using standard proliferation, cytotoxicity or cytokine assays, which may be performed using samples obtained from a patient before and after treatment.

METHODS FOR DETECTING CANCER

In general, a cancer may be detected in a patient based on the presence of one or more prostate tumor proteins and/or polynucleotides encoding such proteins in a biological sample (for example, blood, sera, urine and/or tumor biopsies) obtained from

the patient. In other words, such proteins may be used as markers to indicate the presence or absence of a cancer such as prostate cancer. In addition, such proteins may be useful for the detection of other cancers. The binding agents provided herein generally permit detection of the level of antigen that binds to the agent in the biological sample. Polynucleotide primers and probes may be used to detect the level of mRNA encoding a tumor protein, which is also indicative of the presence or absence of a cancer. In general, a prostate tumor sequence should be present at a level that is at least three fold higher in tumor tissue than in normal tissue

There are a variety of assay formats known to those of ordinary skill in the art for using a binding agent to detect polypeptide markers in a sample. See, e.g., Harlow and Lane, *Antibodies: A Laboratory Manual*, Cold Spring Harbor Laboratory, 1988. In general, the presence or absence of a cancer in a patient may be determined by (a) contacting a biological sample obtained from a patient with a binding agent; (b) detecting in the sample a level of polypeptide that binds to the binding agent; and (c) comparing the level of polypeptide with a predetermined cut-off value.

In a preferred embodiment, the assay involves the use of binding agent immobilized on a solid support to bind to and remove the polypeptide from the remainder of the sample. The bound polypeptide may then be detected using a detection reagent that contains a reporter group and specifically binds to the binding agent/polypeptide complex. Such detection reagents may comprise, for example, a binding agent that specifically binds to the polypeptide or an antibody or other agent that specifically binds to the binding agent, such as an anti-immunoglobulin, protein G, protein A or a lectin. Alternatively, a competitive assay may be utilized, in which a polypeptide is labeled with a reporter group and allowed to bind to the immobilized binding agent after incubation of the binding agent with the sample. The extent to which components of the sample inhibit the binding of the labeled polypeptide to the binding agent is indicative of the reactivity of the sample with the immobilized binding agent. Suitable polypeptides for use within such assays include full length prostate tumor proteins and portions thereof to which the binding agent binds, as described above.

The solid support may be any material known to those of ordinary skill in the art to which the tumor protein may be attached. For example, the solid support may be a test well in a microtiter plate or a nitrocellulose or other suitable membrane. Alternatively, the support may be a bead or disc, such as glass, fiberglass, latex or a plastic material such as polystyrene or polyvinylchloride. The support may also be a magnetic particle or a fiber optic sensor, such as those disclosed, for example, in U.S. Patent No. 5,359,681. The binding agent may be immobilized on the solid support using a variety of techniques known to those of skill in the art, which are amply described in the patent and scientific literature. In the context of the present invention, the term "immobilization" refers to both noncovalent association, such as adsorption, and covalent attachment (which may be a direct linkage between the agent and functional groups on the support or may be a linkage by way of a cross-linking agent). Immobilization by adsorption to a well in a microtiter plate or to a membrane is preferred. In such cases, adsorption may be achieved by contacting the binding agent, in a suitable buffer, with the solid support for a suitable amount of time. The contact time varies with temperature, but is typically between about 1 hour and about 1 day. In general, contacting a well of a plastic microtiter plate (such as polystyrene or polyvinylchloride) with an amount of binding agent ranging from about 10 ng to about 10 μ g, and preferably about 100 ng to about 1 μ g, is sufficient to immobilize an adequate amount of binding agent.

Covalent attachment of binding agent to a solid support may generally be achieved by first reacting the support with a bifunctional reagent that will react with both the support and a functional group, such as a hydroxyl or amino group, on the binding agent. For example, the binding agent may be covalently attached to supports having an appropriate polymer coating using benzoquinone or by condensation of an aldehyde group on the support with an amine and an active hydrogen on the binding partner (*see, e.g.,* Pierce Immunotechnology Catalog and Handbook, 1991, at A12-A13).

In certain embodiments, the assay is a two-antibody sandwich assay. This assay may be performed by first contacting an antibody that has been immobilized

on a solid support, commonly the well of a microtiter plate, with the sample, such that polypeptides within the sample are allowed to bind to the immobilized antibody. Unbound sample is then removed from the immobilized polypeptide-antibody complexes and a detection reagent (preferably a second antibody capable of binding to a different site on the polypeptide) containing a reporter group is added. The amount of detection reagent that remains bound to the solid support is then determined using a method appropriate for the specific reporter group.

More specifically, once the antibody is immobilized on the support as described above, the remaining protein binding sites on the support are typically blocked. Any suitable blocking agent known to those of ordinary skill in the art, such as bovine serum albumin or Tween 20™ (Sigma Chemical Co., St. Louis, MO). The immobilized antibody is then incubated with the sample, and polypeptide is allowed to bind to the antibody. The sample may be diluted with a suitable diluent, such as phosphate-buffered saline (PBS) prior to incubation. In general, an appropriate contact time (*i.e.*, incubation time) is a period of time that is sufficient to detect the presence of polypeptide within a sample obtained from an individual with prostate cancer. Preferably, the contact time is sufficient to achieve a level of binding that is at least about 95% of that achieved at equilibrium between bound and unbound polypeptide. Those of ordinary skill in the art will recognize that the time necessary to achieve equilibrium may be readily determined by assaying the level of binding that occurs over a period of time. At room temperature, an incubation time of about 30 minutes is generally sufficient.

Unbound sample may then be removed by washing the solid support with an appropriate buffer, such as PBS containing 0.1% Tween 20™. The second antibody, which contains a reporter group, may then be added to the solid support. Preferred reporter groups include those groups recited above.

The detection reagent is then incubated with the immobilized antibody-polypeptide complex for an amount of time sufficient to detect the bound polypeptide. An appropriate amount of time may generally be determined by assaying the level of binding that occurs over a period of time. Unbound detection reagent is then removed

and bound detection reagent is detected using the reporter group. The method employed for detecting the reporter group depends upon the nature of the reporter group. For radioactive groups, scintillation counting or autoradiographic methods are generally appropriate. Spectroscopic methods may be used to detect dyes, luminescent groups and fluorescent groups. Biotin may be detected using avidin, coupled to a different reporter group (commonly a radioactive or fluorescent group or an enzyme). Enzyme reporter groups may generally be detected by the addition of substrate (generally for a specific period of time), followed by spectroscopic or other analysis of the reaction products.

To determine the presence or absence of a cancer, such as prostate cancer, the signal detected from the reporter group that remains bound to the solid support is generally compared to a signal that corresponds to a predetermined cut-off value. In one preferred embodiment, the cut-off value for the detection of a cancer is the average mean signal obtained when the immobilized antibody is incubated with samples from patients without the cancer. In general, a sample generating a signal that is three standard deviations above the predetermined cut-off value is considered positive for the cancer. In an alternate preferred embodiment, the cut-off value is determined using a Receiver Operator Curve, according to the method of Sackett et al., *Clinical Epidemiology: A Basic Science for Clinical Medicine*, Little Brown and Co., 1985, p. 106-7. Briefly, in this embodiment, the cut-off value may be determined from a plot of pairs of true positive rates (*i.e.*, sensitivity) and false positive rates (100%-specificity) that correspond to each possible cut-off value for the diagnostic test result. The cut-off value on the plot that is the closest to the upper left-hand corner (*i.e.*, the value that encloses the largest area) is the most accurate cut-off value, and a sample generating a signal that is higher than the cut-off value determined by this method may be considered positive. Alternatively, the cut-off value may be shifted to the left along the plot, to minimize the false positive rate, or to the right, to minimize the false negative rate. In general, a sample generating a signal that is higher than the cut-off value determined by this method is considered positive for a cancer.

In a related embodiment, the assay is performed in a flow-through or strip test format, wherein the binding agent is immobilized on a membrane, such as nitrocellulose. In the flow-through test, polypeptides within the sample bind to the immobilized binding agent as the sample passes through the membrane. A second, labeled binding agent then binds to the binding agent-polypeptide complex as a solution containing the second binding agent flows through the membrane. The detection of bound second binding agent may then be performed as described above. In the strip test format, one end of the membrane to which binding agent is bound is immersed in a solution containing the sample. The sample migrates along the membrane through a region containing second binding agent and to the area of immobilized binding agent. Concentration of second binding agent at the area of immobilized antibody indicates the presence of a cancer. Typically, the concentration of second binding agent at that site generates a pattern, such as a line, that can be read visually. The absence of such a pattern indicates a negative result. In general, the amount of binding agent immobilized on the membrane is selected to generate a visually discernible pattern when the biological sample contains a level of polypeptide that would be sufficient to generate a positive signal in the two-antibody sandwich assay, in the format discussed above. Preferred binding agents for use in such assays are antibodies and antigen-binding fragments thereof. Preferably, the amount of antibody immobilized on the membrane ranges from about 25 ng to about 1 μ g, and more preferably from about 50 ng to about 500 ng. Such tests can typically be performed with a very small amount of biological sample.

Of course, numerous other assay protocols exist that are suitable for use with the tumor proteins or binding agents of the present invention. The above descriptions are intended to be exemplary only. For example, it will be apparent to those of ordinary skill in the art that the above protocols may be readily modified to use prostate tumor polypeptides to detect antibodies that bind to such polypeptides in a biological sample. The detection of such prostate tumor protein specific antibodies may correlate with the presence of a cancer.

A cancer may also, or alternatively, be detected based on the presence of T cells that specifically react with a prostate tumor protein in a biological sample. Within certain methods, a biological sample comprising CD4⁺ and/or CD8⁺ T cells isolated from a patient is incubated with a prostate tumor polypeptide, a polynucleotide encoding such a polypeptide and/or an APC that expresses at least an immunogenic portion of such a polypeptide, and the presence or absence of specific activation of the T cells is detected. Suitable biological samples include, but are not limited to, isolated T cells. For example, T cells may be isolated from a patient by routine techniques (such as by Ficoll/Hypaque density gradient centrifugation of peripheral blood lymphocytes). T cells may be incubated *in vitro* for 2-9 days (typically 4 days) at 37°C with prostate tumor polypeptide (*e.g.*, 5 - 25 µg/ml). It may be desirable to incubate another aliquot of a T cell sample in the absence of prostate tumor polypeptide to serve as a control. For CD4⁺ T cells, activation is preferably detected by evaluating proliferation of the T cells. For CD8⁺ T cells, activation is preferably detected by evaluating cytolytic activity. A level of proliferation that is at least two fold greater and/or a level of cytolytic activity that is at least 20% greater than in disease-free patients indicates the presence of a cancer in the patient.

As noted above, a cancer may also, or alternatively, be detected based on the level of mRNA encoding a prostate tumor protein in a biological sample. For example, at least two oligonucleotide primers may be employed in a polymerase chain reaction (PCR) based assay to amplify a portion of a prostate tumor cDNA derived from a biological sample, wherein at least one of the oligonucleotide primers is specific for (*i.e.*, hybridizes to) a polynucleotide encoding the prostate tumor protein. The amplified cDNA is then separated and detected using techniques well known in the art, such as gel electrophoresis. Similarly, oligonucleotide probes that specifically hybridize to a polynucleotide encoding a prostate tumor protein may be used in a hybridization assay to detect the presence of polynucleotide encoding the tumor protein in a biological sample.

To permit hybridization under assay conditions, oligonucleotide primers and probes should comprise an oligonucleotide sequence that has at least about 60%,

preferably at least about 75% and more preferably at least about 90%, identity to a portion of a polynucleotide encoding a prostate tumor protein that is at least 10 nucleotides, and preferably at least 20 nucleotides, in length. Preferably, oligonucleotide primers and/or probes will hybridize to a polynucleotide encoding a polypeptide disclosed herein under moderately stringent conditions, as defined above. Oligonucleotide primers and/or probes which may be usefully employed in the diagnostic methods described herein preferably are at least 10-40 nucleotides in length. In a preferred embodiment, the oligonucleotide primers comprise at least 10 contiguous nucleotides, more preferably at least 15 contiguous nucleotides, of a DNA molecule having a sequence recited in SEQ ID NO: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375 and 381. Techniques for both PCR based assays and hybridization assays are well known in the art (*see*, for example, Mullis et al., *Cold Spring Harbor Symp. Quant. Biol.*, 51:263, 1987; Erlich ed., *PCR Technology*, Stockton Press, NY, 1989).

One preferred assay employs RT-PCR, in which PCR is applied in conjunction with reverse transcription. Typically, RNA is extracted from a biological sample, such as biopsy tissue, and is reverse transcribed to produce cDNA molecules. PCR amplification using at least one specific primer generates a cDNA molecule, which may be separated and visualized using, for example, gel electrophoresis. Amplification may be performed on biological samples taken from a test patient and from an individual who is not afflicted with a cancer. The amplification reaction may be performed on several dilutions of cDNA spanning two orders of magnitude. A two-fold or greater increase in expression in several dilutions of the test patient sample as compared to the same dilutions of the non-cancerous sample is typically considered positive.

In another embodiment, the disclosed compositions may be used as markers for the progression of cancer. In this embodiment, assays as described above for the diagnosis of a cancer may be performed over time, and the change in the level of reactive polypeptide(s) or polynucleotide evaluated. For example, the assays may be performed every 24-72 hours for a period of 6 months to 1 year, and thereafter

performed as needed. In general, a cancer is progressing in those patients in whom the level of polypeptide or polynucleotide detected increases over time. In contrast, the cancer is not progressing when the level of reactive polypeptide or polynucleotide either remains constant or decreases with time.

Certain *in vivo* diagnostic assays may be performed directly on a tumor. One such assay involves contacting tumor cells with a binding agent. The bound binding agent may then be detected directly or indirectly via a reporter group. Such binding agents may also be used in histological applications. Alternatively, polynucleotide probes may be used within such applications.

As noted above, to improve sensitivity, multiple prostate tumor protein markers may be assayed within a given sample. It will be apparent that binding agents specific for different proteins provided herein may be combined within a single assay. Further, multiple primers or probes may be used concurrently. The selection of tumor protein markers may be based on routine experiments to determine combinations that results in optimal sensitivity. In addition, or alternatively, assays for tumor proteins provided herein may be combined with assays for other known tumor antigens.

DIAGNOSTIC KITS

The present invention further provides kits for use within any of the above diagnostic methods. Such kits typically comprise two or more components necessary for performing a diagnostic assay. Components may be compounds, reagents, containers and/or equipment. For example, one container within a kit may contain a monoclonal antibody or fragment thereof that specifically binds to a prostate tumor protein. Such antibodies or fragments may be provided attached to a support material, as described above. One or more additional containers may enclose elements, such as reagents or buffers, to be used in the assay. Such kits may also, or alternatively, contain a detection reagent as described above that contains a reporter group suitable for direct or indirect detection of antibody binding.

Alternatively, a kit may be designed to detect the level of mRNA encoding a prostate tumor protein in a biological sample. Such kits generally comprise

at least one oligonucleotide probe or primer, as described above, that hybridizes to a polynucleotide encoding a prostate tumor protein. Such an oligonucleotide may be used, for example, within a PCR or hybridization assay. Additional components that may be present within such kits include a second oligonucleotide and/or a diagnostic reagent or container to facilitate the detection of a polynucleotide encoding a prostate tumor protein.

The following Examples are offered by way of illustration and not by way of limitation.

EXAMPLES

EXAMPLE 1

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library was constructed from prostate tumor poly A⁺ RNA using a Superscript Plasmid System for cDNA Synthesis and Plasmid Cloning kit (BRL Life Technologies, Gaithersburg, MD 20897) following the manufacturer's protocol. Specifically, prostate tumor tissues were homogenized with polytron (Kinematica, Switzerland) and total RNA was extracted using Trizol reagent (BRL Life Technologies) as directed by the manufacturer. The poly A⁺ RNA was then purified using a Qiagen oligotex spin column mRNA purification kit (Qiagen, Santa Clarita, CA 91355) according to the manufacturer's protocol. First-strand cDNA was synthesized using the NotI/Oligo-dT18 primer. Double-stranded cDNA was synthesized, ligated with EcoRI/BAXI adaptors (Invitrogen, San Diego, CA) and digested with NotI. Following size fractionation with Chroma Spin-1000 columns (Clontech, Palo Alto, CA), the cDNA was ligated into the EcoRI/NotI site of pCDNA3.1 (Invitrogen) and transformed into ElectroMax *E. coli* DH10B cells (BRL Life Technologies) by electroporation.

Using the same procedure, a normal human pancreas cDNA expression library was prepared from a pool of six tissue specimens (Clontech). The cDNA libraries were characterized by determining the number of independent colonies, the percentage of clones that carried insert, the average insert size and by sequence analysis. The prostate tumor library contained 1.64×10^7 independent colonies, with 70% of clones having an insert and the average insert size being 1745 base pairs. The normal pancreas cDNA library contained 3.3×10^6 independent colonies, with 69% of clones

having inserts and the average insert size being 1120 base pairs. For both libraries, sequence analysis showed that the majority of clones had a full length cDNA sequence and were synthesized from mRNA, with minimal rRNA and mitochondrial DNA contamination.

cDNA library subtraction was performed using the above prostate tumor and normal pancreas cDNA libraries, as described by Hara *et al.* (*Blood*, 84:189-199, 1994) with some modifications. Specifically, a prostate tumor-specific subtracted cDNA library was generated as follows. Normal pancreas cDNA library (70 µg) was digested with EcoRI, NotI, and SfuI, followed by a filling-in reaction with DNA polymerase Klenow fragment. After phenol-chloroform extraction and ethanol precipitation, the DNA was dissolved in 100 µl of H₂O, heat-denatured and mixed with 100 µl (100 µg) of Photoprobe biotin (Vector Laboratories, Burlingame, CA). As recommended by the manufacturer, the resulting mixture was irradiated with a 270 W sunlamp on ice for 20 minutes. Additional Photoprobe biotin (50 µl) was added and the biotinylation reaction was repeated. After extraction with butanol five times, the DNA was ethanol-precipitated and dissolved in 23 µl H₂O to form the driver DNA.

To form the tracer DNA, 10 µg prostate tumor cDNA library was digested with BamHI and XhoI, phenol chloroform extracted and passed through Chroma spin-400 columns (Clontech). Following ethanol precipitation, the tracer DNA was dissolved in 5 µl H₂O. Tracer DNA was mixed with 15 µl driver DNA and 20 µl of 2 x hybridization buffer (1.5 M NaCl/10 mM EDTA/50 mM HEPES pH 7.5/0.2% sodium dodecyl sulfate), overlaid with mineral oil, and heat-denatured completely. The sample was immediately transferred into a 68 °C water bath and incubated for 20 hours (long hybridization [LH]). The reaction mixture was then subjected to a streptavidin treatment followed by phenol/chloroform extraction. This process was repeated three more times. Subtracted DNA was precipitated, dissolved in 12 µl H₂O, mixed with 8 µl driver DNA and 20 µl of 2 x hybridization buffer, and subjected to a hybridization at 68 °C for 2 hours (short hybridization [SH]). After removal of biotinylated double-stranded DNA, subtracted cDNA was ligated into BamHI/XhoI site of chloramphenicol resistant pBCSK⁺ (Stratagene, La Jolla, CA 92037) and transformed into ElectroMax *E.*

coli DH10B cells by electroporation to generate a prostate tumor specific subtracted cDNA library (referred to as "prostate subtraction 1").

To analyze the subtracted cDNA library, plasmid DNA was prepared from 100 independent clones, randomly picked from the subtracted prostate tumor specific library and grouped based on insert size. Representative cDNA clones were further characterized by DNA sequencing with a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A (Foster City, CA). Six cDNA clones, hereinafter referred to as F1-13, F1-12, F1-16, H1-1, H1-9 and H1-4, were shown to be abundant in the subtracted prostate-specific cDNA library. The determined 3' and 5' cDNA sequences for F1-12 are provided in SEQ ID NO: 2 and 3, respectively, with determined 3' cDNA sequences for F1-13, F1-16, H1-1, H1-9 and H1-4 being provided in SEQ ID NO: 1 and 4-7, respectively.

The cDNA sequences for the isolated clones were compared to known sequences in the gene bank using the EMBL and GenBank databases (release 96). Four of the prostate tumor cDNA clones, F1-13, F1-16, H1-1, and H1-4, were determined to encode the following previously identified proteins: prostate specific antigen (PSA), human glandular kallikrein, human tumor expression enhanced gene, and mitochondria cytochrome C oxidase subunit II. H1-9 was found to be identical to a previously identified human autonomously replicating sequence. No significant homologies to the cDNA sequence for F1-12 were found.

Subsequent studies led to the isolation of a full-length cDNA sequence for F1-12. This sequence is provided in SEQ ID NO: 107, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 108.

To clone less abundant prostate tumor specific genes, cDNA library subtraction was performed by subtracting the prostate tumor cDNA library described above with the normal pancreas cDNA library and with the three most abundant genes in the previously subtracted prostate tumor specific cDNA library: human glandular kallikrein, prostate specific antigen (PSA), and mitochondria cytochrome C oxidase subunit II. Specifically, 1 µg each of human glandular kallikrein, PSA and mitochondria cytochrome C oxidase subunit II cDNAs in pCDNA3.1 were added to the

driver DNA and subtraction was performed as described above to provide a second subtracted cDNA library hereinafter referred to as the "subtracted prostate tumor specific cDNA library with spike".

Twenty-two cDNA clones were isolated from the subtracted prostate tumor specific cDNA library with spike. The determined 3' and 5' cDNA sequences for the clones referred to as J1-17, L1-12, N1-1862, J1-13, J1-19, J1-25, J1-24, K1-58, K1-63, L1-4 and L1-14 are provided in SEQ ID NOS: 8-9, 10-11, 12-13, 14-15, 16-17, 18-19, 20-21, 22-23, 24-25, 26-27 and 28-29, respectively. The determined 3' cDNA sequences for the clones referred to as J1-12, J1-16, J1-21, K1-48, K1-55, L1-2, L1-6, N1-1858, N1-1860, N1-1861, N1-1864 are provided in SEQ ID NOS: 30-40, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to three of the five most abundant DNA species, (J1-17, L1-12 and N1-1862; SEQ ID NOS: 8-9, 10-11 and 12-13, respectively). Of the remaining two most abundant species, one (J1-12; SEQ ID NO:30) was found to be identical to the previously identified human pulmonary surfactant-associated protein, and the other (K1-48; SEQ ID NO:33) was determined to have some homology to *R. norvegicus* mRNA for 2-arylpropionyl-CoA epimerase. Of the 17 less abundant cDNA clones isolated from the subtracted prostate tumor specific cDNA library with spike, four (J1-16, K1-55, L1-6 and N1-1864; SEQ ID NOS:31, 34, 36 and 40, respectively) were found to be identical to previously identified sequences, two (J1-21 and N1-1860; SEQ ID NOS: 32 and 38, respectively) were found to show some homology to non-human sequences, and two (L1-2 and N1-1861; SEQ ID NOS: 35 and 39, respectively) were found to show some homology to known human sequences. No significant homologies were found to the polypeptides J1-13, J1-19, J1-24, J1-25, K1-58, K1-63, L1-4, L1-14 (SEQ ID NOS: 14-15, 16-17, 20-21, 18-19, 22-23, 24-25, 26-27, 28-29, respectively).

Subsequent studies led to the isolation of full length cDNA sequences for J1-17, L1-12 and N1-1862 (SEQ ID NOS: 109-111, respectively). The corresponding predicted amino acid sequences are provided in SEQ ID NOS: 112-114. L1-12 is also referred to as P501S.

In a further experiment, four additional clones were identified by subtracting a prostate tumor cDNA library with normal prostate cDNA prepared from a pool of three normal prostate poly A+ RNA (referred to as "prostate subtraction 2"). The determined cDNA sequences for these clones, hereinafter referred to as U1-3064, U1-3065, V1-3692 and 1A-3905, are provided in SEQ ID NO: 69-72, respectively. Comparison of the determined sequences with those in the gene bank revealed no significant homologies to U1-3065.

A second subtraction with spike (referred to as "prostate subtraction spike 2") was performed by subtracting a prostate tumor specific cDNA library with spike with normal pancreas cDNA library and further spiked with PSA, J1-17, pulmonary surfactant-associated protein, mitochondrial DNA, cytochrome c oxidase subunit II, N1-1862, autonomously replicating sequence, L1-12 and tumor expression enhanced gene. Four additional clones, hereinafter referred to as V1-3686, R1-2330, 1B-3976 and V1-3679, were isolated. The determined cDNA sequences for these clones are provided in SEQ ID NO:73-76, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to V1-3686 and R1-2330.

Further analysis of the three prostate subtractions described above (prostate subtraction 2, subtracted prostate tumor specific cDNA library with spike, and prostate subtraction spike 2) resulted in the identification of sixteen additional clones, referred to as 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1G-4734, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4810, 1I-4811, 1J-4876, 1K-4884 and 1K-4896. The determined cDNA sequences for these clones are provided in SEQ ID NOS: 77-92, respectively. Comparison of these sequences with those in the gene bank as described above, revealed no significant homologies to 1G-4741, 1G-4734, 1I-4807, 1J-4876 and 1K-4896 (SEQ ID NOS: 79, 81, 87, 90 and 92, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4736, 1G-4738, 1G-4741, 1G-4744, 1H-4774, 1H-4781, 1H-4785, 1H-4787, 1H-4796, 1I-4807, 1J-4876, 1K-4884 and 1K-4896, provided in SEQ ID NOS: 179-188 and 191-193,

respectively, and to the determination of additional partial cDNA sequences for 1I-4810 and 1I-4811, provided in SEQ ID NOS: 189 and 190, respectively.

Additional studies with prostate subtraction spike 2 resulted in the isolation of three more clones. Their sequences were determined as described above and compared to the most recent GenBank. All three clones were found to have homology to known genes, which are Cysteine-rich protein, KIAA0242, and KIAA0280 (SEQ ID NO: 317, 319, and 320, respectively). Further analysis of these clones by Synteni microarray (Synteni, Palo Alto, CA) demonstrated that all three clones were over-expressed in most prostate tumors and prostate BPH, as well as in the majority of normal prostate tissues tested, but low expression in all other normal tissues.

An additional subtraction was performed by subtracting a normal prostate cDNA library with normal pancreas cDNA (referred to as "prostate subtraction 3"). This led to the identification of six additional clones referred to as 1G-4761, 1G-4762, 1H-4766, 1H-4770, 1H-4771 and 1H-4772 (SEQ ID NOS: 93-98). Comparison of these sequences with those in the gene bank revealed no significant homologies to 1G-4761 and 1H-4771 (SEQ ID NOS: 93 and 97, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1G-4761, 1G-4762, 1H-4766 and 1H-4772 provided in SEQ ID NOS: 194-196 and 199, respectively, and to the determination of additional partial cDNA sequences for 1H-4770 and 1H-4771, provided in SEQ ID NOS: 197 and 198, respectively.

Subtraction of a prostate tumor cDNA library, prepared from a pool of polyA+ RNA from three prostate cancer patients, with a normal pancreas cDNA library (prostate subtraction 4) led to the identification of eight clones, referred to as 1D-4297, 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280 (SEQ ID NOS: 99-107). These sequences were compared to those in the gene bank as described above. No significant homologies were found to 1D-4283 and 1D-4304 (SEQ ID NOS: 103 and 104, respectively). Further analysis of the isolated clones led to the determination of extended cDNA sequences for 1D-4309, 1D.1-4278, 1D-4288, 1D-4283, 1D-4304, 1D-4296 and 1D-4280, provided in SEQ ID NOS: 200-206, respectively.

cDNA clones isolated in prostate subtraction 1 and prostate subtraction 2, described above, were colony PCR amplified and their mRNA expression levels in prostate tumor, normal prostate and in various other normal tissues were determined using microarray technology (Synteni, Palo Alto, CA). Briefly, the PCR amplification products were dotted onto slides in an array format, with each product occupying a unique location in the array. mRNA was extracted from the tissue sample to be tested, reverse transcribed, and fluorescent-labeled cDNA probes were generated. The microarrays were probed with the labeled cDNA probes, the slides scanned and fluorescence intensity was measured. This intensity correlates with the hybridization intensity. Two clones (referred to as P509S and P510S) were found to be over-expressed in prostate tumor and normal prostate and expressed at low levels in all other normal tissues tested (liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon). The determined cDNA sequences for P509S and P510S are provided in SEQ ID NO: 223 and 224, respectively. Comparison of these sequences with those in the gene bank as described above, revealed some homology to previously identified ESTs.

Additional, studies led to the isolation of the full-length cDNA sequence for P509S. This sequence is provided in SEQ ID NO: 332, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 339.

EXAMPLE 2

DETERMINATION OF TISSUE SPECIFICITY OF PROSTATE TUMOR POLYPEPTIDES

Using gene specific primers, mRNA expression levels for the representative prostate tumor polypeptides F1-16, H1-1, J1-17 (also referred to as P502S), L1-12 (also referred to as P501S), F1-12 (also referred to as P504S) and N1-1862 (also referred to as P503S) were examined in a variety of normal and tumor tissues using RT-PCR.

Briefly, total RNA was extracted from a variety of normal and tumor tissues using Trizol reagent as described above. First strand synthesis was carried out using 1-2 μ g of total RNA with SuperScript II reverse transcriptase (BRL Life Technologies) at 42 °C for one hour. The cDNA was then amplified by PCR with gene-specific primers. To ensure the semi-quantitative nature of the RT-PCR, β -actin was used as an internal control for each of the tissues examined. First, serial dilutions of the first strand cDNAs were prepared and RT-PCR assays were performed using β -actin specific primers. A dilution was then chosen that enabled the linear range amplification of the β -actin template and which was sensitive enough to reflect the differences in the initial copy numbers. Using these conditions, the β -actin levels were determined for each reverse transcription reaction from each tissue. DNA contamination was minimized by DNase treatment and by assuring a negative PCR result when using first strand cDNA that was prepared without adding reverse transcriptase.

mRNA Expression levels were examined in four different types of tumor tissue (prostate tumor from 2 patients, breast tumor from 3 patients, colon tumor, lung tumor), and sixteen different normal tissues, including prostate, colon, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, testes, bone marrow and brain. F1-16 was found to be expressed at high levels in prostate tumor tissue, colon tumor and normal prostate, and at lower levels in normal liver, skin and testes, with expression being undetectable in the other tissues examined. H1-1 was found to be expressed at high levels in prostate tumor, lung tumor, breast tumor, normal prostate, normal colon and normal brain, at much lower levels in normal lung, pancreas, skeletal muscle, skin, small intestine, bone marrow, and was not detected in the other tissues tested. J1-17 (P502S) and L1-12 (P501S) appear to be specifically over-expressed in prostate, with both genes being expressed at high levels in prostate tumor and normal prostate but at low to undetectable levels in all the other tissues examined. N1-1862 (P503S) was found to be over-expressed in 60% of prostate tumors and detectable in normal colon and kidney. The RT-PCR results thus indicate that F1-16, H1-1, J1-17 (P502S), N1-1862 (P503S) and L1-12 (P501S) are either prostate specific or are expressed at significantly elevated levels in prostate.

Further RT-PCR studies showed that F1-12 (P504S) is over-expressed in 60% of prostate tumors, detectable in normal kidney but not detectable in all other tissues tested. Similarly, R1-2330 was shown to be over-expressed in 40% of prostate tumors, detectable in normal kidney and liver, but not detectable in all other tissues tested. U1-3064 was found to be over-expressed in 60% of prostate tumors, and also expressed in breast and colon tumors, but was not detectable in normal tissues.

RT-PCR characterization of R1-2330, U1-3064 and 1D-4279 showed that these three antigens are over-expressed in prostate and/or prostate tumors.

Northern analysis with four prostate tumors, two normal prostate samples, two BPH prostates, and normal colon, kidney, liver, lung, pancreas, skeletal muscle, brain, stomach, testes, small intestine and bone marrow, showed that L1-12 (P501S) is over-expressed in prostate tumors and normal prostate, while being undetectable in other normal tissues tested. J1-17 (P502S) was detected in two prostate tumors and not in the other tissues tested. N1-1862 (P503S) was found to be over-expressed in three prostate tumors and to be expressed in normal prostate, colon and kidney, but not in other tissues tested. F1-12 (P504S) was found to be highly expressed in two prostate tumors and to be undetectable in all other tissues tested.

The microarray technology described above was used to determine the expression levels of representative antigens described herein in prostate tumor, breast tumor and the following normal tissues: prostate, liver, pancreas, skin, bone marrow, brain, breast, adrenal gland, bladder, testes, salivary gland, large intestine, kidney, ovary, lung, spinal cord, skeletal muscle and colon. L1-12 (P501S) was found to be over-expressed in normal prostate and prostate tumor, with some expression being detected in normal skeletal muscle. Both J1-12 and F1-12 (P504S) were found to be over-expressed in prostate tumor, with expression being lower or undetectable in all other tissues tested. N1-1862 (P503S) was found to be expressed at high levels in prostate tumor and normal prostate, and at low levels in normal large intestine and normal colon, with expression being undetectable in all other tissues tested. R1-2330 was found to be over-expressed in prostate tumor and normal prostate, and to be expressed at lower levels in all other tissues tested. 1D-4279 was found to be over-

expressed in prostate tumor and normal prostate, expressed at lower levels in normal spinal cord, and to be undetectable in all other tissues tested.

Further microarray analysis to specifically address the extent to which P501S (SEQ ID NO: 110) was expressed in breast tumor revealed moderate over-expression not only in breast tumor, but also in metastatic breast tumor (2/31), with negligible to low expression in normal tissues. This data suggests that P501S may be over-expressed in various breast tumors as well as in prostate tumors.

The expression levels of 32 ESTs (expressed sequence tags) described by Vasmatzis *et al.* (*Proc. Natl. Acad. Sci. USA* 95:300-304, 1998) in a variety of tumor and normal tissues were examined by microarray technology as described above. Two of these clones (referred to as P1000C and P1001C) were found to be over-expressed in prostate tumor and normal prostate, and expressed at low to undetectable levels in all other tissues tested (normal aorta, thymus, resting and activated PBMC, epithelial cells, spinal cord, adrenal gland, fetal tissues, skin, salivary gland, large intestine, bone marrow, liver, lung, dendritic cells, stomach, lymph nodes, brain, heart, small intestine, skeletal muscle, colon and kidney. The determined cDNA sequences for P1000C and P1001C are provided in SEQ ID NO: 384 and 472, respectively. The sequence of P1001C was found to show some homology to the previously isolated Human mRNA for JM27 protein. No significant homologies were found to the sequence of P1000C.

The expression of the polypeptide encoded by the full length cDNA sequence for F1-12 (also referred to as P504S; SEQ ID NO: 108) was investigated by immunohistochemical analysis. Rabbit-anti-P504S polyclonal antibodies were generated against the full length P504S protein by standard techniques. Subsequent isolation and characterization of the polyclonal antibodies were also performed by techniques well known in the art. Immunohistochemical analysis showed that the P504S polypeptide was expressed in 100% of prostate carcinoma samples tested (n=5).

The rabbit-anti-P504S polyclonal antibody did not appear to label benign prostate cells with the same cytoplasmic granular staining, but rather with light nuclear staining. Analysis of normal tissues revealed that the encoded polypeptide was found to be expressed in some, but not all normal human tissues. Positive

cytoplasmic staining with rabbit-anti-P504S polyclonal antibody was found in normal human kidney, liver, brain, colon and lung-associated macrophages, whereas heart and bone marrow were negative.

This data indicates that the P504S polypeptide is present in prostate cancer tissues, and that there are qualitative and quantitative differences in the staining between benign prostatic hyperplasia tissues and prostate cancer tissues, suggesting that this polypeptide may be detected selectively in prostate tumors and therefore be useful in the diagnosis of prostate cancer.

EXAMPLE 3

ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA subtraction library, containing cDNA from normal prostate subtracted with ten other normal tissue cDNAs (brain, heart, kidney, liver, lung, ovary, placenta, skeletal muscle, spleen and thymus) and then submitted to a first round of PCR amplification, was purchased from Clontech. This library was subjected to a second round of PCR amplification, following the manufacturer's protocol. The resulting cDNA fragments were subcloned into the vector pT7 Blue T-vector (Novagen, Madison, WI) and transformed into XL-1 Blue MRF' *E. coli* (Stratagene). DNA was isolated from independent clones and sequenced using a Perkin Elmer/Applied Biosystems Division Automated Sequencer Model 373A.

Fifty-nine positive clones were sequenced. Comparison of the DNA sequences of these clones with those in the gene bank, as described above, revealed no significant homologies to 25 of these clones, hereinafter referred to as P5, P8, P9, P18, P20, P30, P34, P36, P38, P39, P42, P49, P50, P53, P55, P60, P64, P65, P73, P75, P76, P79 and P84. The determined cDNA sequences for these clones are provided in SEQ ID NO: 41-45, 47-52 and 54-65, respectively. P29, P47, P68, P80 and P82 (SEQ ID NO: 46, 53 and 66-68, respectively) were found to show some degree of homology to

previously identified DNA sequences. To the best of the inventors' knowledge, none of these sequences have been previously shown to be present in prostate.

Further studies using the PCR-based methodology described above resulted in the isolation of more than 180 additional clones, of which 23 clones were found to show no significant homologies to known sequences. The determined cDNA sequences for these clones are provided in SEQ ID NO: 115-123, 127, 131, 137, 145, 147-151, 153, 156-158 and 160. Twenty-three clones (SEQ ID NO: 124-126, 128-130, 132-136, 138-144, 146, 152, 154, 155 and 159) were found to show some homology to previously identified ESTs. An additional ten clones (SEQ ID NO: 161-170) were found to have some degree of homology to known genes. Larger cDNA clones containing the P20 sequence represent splice variants of a gene referred to as P703P. The determined DNA sequence for the variants referred to as DE1, DE13 and DE14 are provided in SEQ ID NOS: 171, 175 and 177, respectively, with the corresponding predicted amino acid sequences being provided in SEQ ID NO: 172, 176 and 178, respectively. The determined cDNA sequence for an extended spliced form of P703 is provided in SEQ ID NO: 225. The DNA sequences for the splice variants referred to as DE2 and DE6 are provided in SEQ ID NOS: 173 and 174, respectively.

mRNA Expression levels for representative clones in tumor tissues (prostate (n=5), breast (n=2), colon and lung) normal tissues (prostate (n=5), colon, kidney, liver, lung (n=2), ovary (n=2), skeletal muscle, skin, stomach, small intestine and brain), and activated and non-activated PBMC was determined by RT-PCR as described above. Expression was examined in one sample of each tissue type unless otherwise indicated.

P9 was found to be highly expressed in normal prostate and prostate tumor compared to all normal tissues tested except for normal colon which showed comparable expression. P20, a portion of the P703P gene, was found to be highly expressed in normal prostate and prostate tumor, compared to all twelve normal tissues tested. A modest increase in expression of P20 in breast tumor (n=2), colon tumor and lung tumor was seen compared to all normal tissues except lung (1 of 2). Increased expression of P18 was found in normal prostate, prostate tumor and breast tumor

compared to other normal tissues except lung and stomach. A modest increase in expression of P5 was observed in normal prostate compared to most other normal tissues. However, some elevated expression was seen in normal lung and PBMC. Elevated expression of P5 was also observed in prostate tumors (2 of 5), breast tumor and one lung tumor sample. For P30, similar expression levels were seen in normal prostate and prostate tumor, compared to six of twelve other normal tissues tested. Increased expression was seen in breast tumors, one lung tumor sample and one colon tumor sample, and also in normal PBMC. P29 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to the majority of normal tissues. However, substantial expression of P29 was observed in normal colon and normal lung (2 of 2). P80 was found to be over-expressed in prostate tumor (5 of 5) and normal prostate (5 of 5) compared to all other normal tissues tested, with increased expression also being seen in colon tumor.

Further studies resulted in the isolation of twelve additional clones, hereinafter referred to as 10-d8, 10-h10, 11-c8, 7-g6, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3, 8-h11, 9-f12 and 9-f3. The determined DNA sequences for 10-d8, 10-h10, 11-c8, 8-d4, 8-d9, 8-h11, 9-f12 and 9-f3 are provided in SEQ ID NO: 207, 208, 209, 216, 217, 220, 221 and 222, respectively. The determined forward and reverse DNA sequences for 7-g6, 8-b5, 8-b6 and 8-g3 are provided in SEQ ID NO: 210 and 211; 212 and 213; 214 and 215; and 218 and 219, respectively. Comparison of these sequences with those in the gene bank revealed no significant homologies to the sequence of 9-f3. The clones 10-d8, 11-c8 and 8-h11 were found to show some homology to previously isolated ESTs, while 10-h10, 8-b5, 8-b6, 8-d4, 8-d9, 8-g3 and 9-f12 were found to show some homology to previously identified genes. Further characterization of 7-G6 and 8-G3 showed identity to the known genes PAP and PSA, respectively.

mRNA expression levels for these clones were determined using the micro-array technology described above. The clones 7-G6, 8-G3, 8-B5, 8-B6, 8-D4, 8-D9, 9-F3, 9-F12, 9-H3, 10-A2, 10-A4, 11-C9 and 11-F2 were found to be over-expressed in prostate tumor and normal prostate, with expression in other tissues tested being low or undetectable. Increased expression of 8-F11 was seen in prostate tumor

and normal prostate, bladder, skeletal muscle and colon. Increased expression of 10-H10 was seen in prostate tumor and normal prostate, bladder, lung, colon, brain and large intestine. Increased expression of 9-B1 was seen in prostate tumor, breast tumor, and normal prostate, salivary gland, large intestine and skin, with increased expression of 11-C8 being seen in prostate tumor, and normal prostate and large intestine.

An additional cDNA fragment derived from the PCR-based normal prostate subtraction, described above, was found to be prostate specific by both microarray technology and RT-PCR. The determined cDNA sequence of this clone (referred to as 9-A11) is provided in SEQ ID NO: 226. Comparison of this sequence with those in the public databases revealed 99% identity to the known gene HOXB13.

Further studies led to the isolation of the clones 8-C6 and 8-H7. The determined cDNA sequences for these clones are provided in SEQ ID NO: 227 and 228, respectively. These sequences were found to show some homology to previously isolated ESTs.

PCR and hybridization-based methodologies were employed to obtain longer cDNA sequences for clone P20 (also referred to as P703P), yielding three additional cDNA fragments that progressively extend the 5' end of the gene. These fragments, referred to as P703PDE5, P703P6.26, and P703PX-23 (SEQ ID NO: 326, 328 and 330, with the predicted corresponding amino acid sequences being provided in SEQ ID NO: 327, 329 and 331, respectively) contain additional 5' sequence. P703PDE5 was recovered by screening of a cDNA library (#141-26) with a portion of P703P as a probe. P703P6.26 was recovered from a mixture of three prostate tumor cDNAs and P703PX_23 was recovered from cDNA library (#438-48). Together, the additional sequences include all of the putative mature serine protease along with part of the putative signal sequence. Further studies using a PCR-based subtraction library of a prostate tumor pool subtracted against a pool of normal tissues (referred to as JP: PCR subtraction) resulted in the isolation of thirteen additional clones, seven of which did not share any significant homology to known GenBank sequences. The determined cDNA sequences for these seven clones (P711P, P712P, novel 23, P774P, P775P, P710P and P768P) are provided in SEQ ID NO: 307-311, 313 and 315, respectively.

The remaining six clones (SEQ ID NO: 316 and 321-325) were shown to share some homology to known genes. By microarray analysis, all thirteen clones showed three or more fold over-expression in prostate tissues, including prostate tumors, BPH and normal prostate as compared to normal non-prostate tissues. Clones P711P, P712P, novel 23 and P768P showed over-expression in most prostate tumors and BPH tissues tested (n=29), and in the majority of normal prostate tissues (n=4), but background to low expression levels in all normal tissues. Clones P774P, P775P and P710P showed comparatively lower expression and expression in fewer prostate tumors and BPH samples, with negative to low expression in normal prostate.

The full-length cDNA for P711P was obtained by employing the partial sequence of SEQ ID NO: 307 to screen a prostate cDNA library. Specifically, a directionally cloned prostate cDNA library was prepared using standard techniques. One million colonies of this library were plated onto LB/Amp plates. Nylon membrane filters were used to lift these colonies, and the cDNAs which were picked up by these filters were denatured and cross-linked to the filters by UV light. The P711P cDNA fragment of SEQ ID NO: 307 was radio-labeled and used to hybridize with these filters. Positive clones were selected, and cDNAs were prepared and sequenced using an automatic Perkin Elmer/Applied Biosystems sequencer. The determined full-length sequence of P711P is provided in SEQ ID NO: 382, with the corresponding predicted amino acid sequence being provided in SEQ ID NO: 383.

Using PCR and hybridization-based methodologies, additional cDNA sequence information was derived for two clones described above, 11-C9 and 9-F3, herein after referred to as P707P and P714P, respectively (SEQ ID NO: 333 and 334). After comparison with the most recent GenBank, P707P was found to be a splice variant of the known gene HoxB13. In contrast, no significant homologies to P714P were found.

Clones 8-B3, P89, P98, P130 and P201 (as disclosed in U.S. Patent Application No. 09/020,956, filed February 9, 1998) were found to be contained within one contiguous sequence, referred to as P705P (SEQ ID NO: 335, with the predicted

amino acid sequence provided in SEQ ID NO: 336), which was determined to be a splice variant of the known gene NKX 3.1.

EXAMPLE 4

SYNTHESIS OF POLYPEPTIDES

Polypeptides may be synthesized on a Perkin Elmer/Applied Biosystems 430A peptide synthesizer using Fmoc chemistry with HPTU (O-Benzotriazole-N,N,N',N'-tetramethyluronium hexafluorophosphate) activation. A Gly-Cys-Gly sequence may be attached to the amino terminus of the peptide to provide a method of conjugation, binding to an immobilized surface, or labeling of the peptide. Cleavage of the peptides from the solid support may be carried out using the following cleavage mixture: trifluoroacetic acid:ethanedithiol:thioanisole:water:phenol (40:1:2:2:3). After cleaving for 2 hours, the peptides may be precipitated in cold methyl-t-butyl-ether. The peptide pellets may then be dissolved in water containing 0.1% trifluoroacetic acid (TFA) and lyophilized prior to purification by C18 reverse phase HPLC. A gradient of 0%-60% acetonitrile (containing 0.1% TFA) in water (containing 0.1% TFA) may be used to elute the peptides. Following lyophilization of the pure fractions, the peptides may be characterized using electrospray or other types of mass spectrometry and by amino acid analysis.

EXAMPLE 5

FURTHER ISOLATION AND CHARACTERIZATION OF PROSTATE TUMOR POLYPEPTIDES BY PCR-BASED SUBTRACTION

A cDNA library generated from prostate primary tumor mRNA as described above was subtracted with cDNA from normal prostate. The subtraction was performed using a PCR-based protocol (Clontech), which was modified to generate larger fragments. Within this protocol, tester and driver double stranded cDNA were

separately digested with five restriction enzymes that recognize six-nucleotide restriction sites (MluI, MscI, PvuII, SalI and StuI). This digestion resulted in an average cDNA size of 600 bp, rather than the average size of 300 bp that results from digestion with RsaI according to the Clontech protocol. This modification did not affect the subtraction efficiency. Two tester populations were then created with different adapters, and the driver library remained without adapters.

The tester and driver libraries were then hybridized using excess driver cDNA. In the first hybridization step, driver was separately hybridized with each of the two tester cDNA populations. This resulted in populations of (a) unhybridized tester cDNAs, (b) tester cDNAs hybridized to other tester cDNAs, (c) tester cDNAs hybridized to driver cDNAs and (d) unhybridized driver cDNAs. The two separate hybridization reactions were then combined, and rehybridized in the presence of additional denatured driver cDNA. Following this second hybridization, in addition to populations (a) through (d), a fifth population (e) was generated in which tester cDNA with one adapter hybridized to tester cDNA with the second adapter. Accordingly, the second hybridization step resulted in enrichment of differentially expressed sequences which could be used as templates for PCR amplification with adaptor-specific primers.

The ends were then filled in, and PCR amplification was performed using adaptor-specific primers. Only population (e), which contained tester cDNA that did not hybridize to driver cDNA, was amplified exponentially. A second PCR amplification step was then performed, to reduce background and further enrich differentially expressed sequences.

This PCR-based subtraction technique normalizes differentially expressed cDNAs so that rare transcripts that are overexpressed in prostate tumor tissue may be recoverable. Such transcripts would be difficult to recover by traditional subtraction methods.

In addition to genes known to be overexpressed in prostate tumor, seventy-seven further clones were identified. Sequences of these partial cDNAs are provided in SEQ ID NO: 29 to 305. Most of these clones had no significant homology to database sequences. Exceptions were JTPN23 (SEQ ID NO: 231; similarity to pig

valosin-containing protein), JPTPN30 (SEQ ID NO: 234; similarity to rat mRNA for proteasome subunit), JPTPN45 (SEQ ID NO: 243; similarity to rat *norvegicus* cytosolic NADP-dependent isocitrate dehydrogenase), JPTPN46 (SEQ ID NO: 244; similarity to human subclone H8 4 d4 DNA sequence), JP1D6 (SEQ ID NO: 265; similarity to *G. gallus* dynein light chain-A), JP8D6 (SEQ ID NO: 288; similarity to human BAC clone RG016J04), JP8F5 (SEQ ID NO: 289; similarity to human subclone H8 3 b5 DNA sequence), and JP8E9 (SEQ ID NO: 299; similarity to human Alu sequence).

Additional studies using the PCR-based subtraction library consisting of a prostate tumor pool subtracted against a normal prostate pool (referred to as PT-PN PCR subtraction) yielded three additional clones. Comparison of the cDNA sequences of these clones with the most recent release of GenBank revealed no significant homologies to the two clones referred to as P715P and P767P (SEQ ID NO: 312 and 314). The remaining clone was found to show some homology to the known gene KIAA0056 (SEQ ID NO: 318). Using microarray analysis to measure mRNA expression levels in various tissues, all three clones were found to be over-expressed in prostate tumors and BPH tissues. Specifically, clone P715P was over-expressed in most prostate tumors and BPH tissues by a factor of three or greater, with elevated expression seen in the majority of normal prostate samples and in fetal tissue, but negative to low expression in all other normal tissues. Clone P767P was over-expressed in several prostate tumors and BPH tissues, with moderate expression levels in half of the normal prostate samples, and background to low expression in all other normal tissues tested.

Further analysis, by microarray as described above, of the PT-PN PCR subtraction library and of a DNA subtraction library containing cDNA from prostate tumor subtracted with a pool of normal tissue cDNAs, led to the isolation of 27 additional clones (SEQ ID NO: 340-365 and 381) which were determined to be over-expressed in prostate tumor. The clones of SEQ ID NO: 341, 342, 345, 347, 348, 349, 351, 355-359, 361, 362 and 364 were also found to be expressed in normal prostate. Expression of all 26 clones in a variety of normal tissues was found to be low or undetectable, with the exception of P544S (SEQ ID NO: 356) which was found to be

expressed in small intestine. Of the 26 clones, 10 (SEQ ID NO: 340-349) were found to show some homology to previously identified sequences. No significant homologies were found to the clones of SEQ ID NO: 350-365.

EXAMPLE 6

PEPTIDE PRIMING OF MICE AND PROPAGATION OF CTL LINES

6.1. This Example illustrates the preparation of a CTL cell line specific for cells expressing the P502S gene.

Mice expressing the transgene for human HLA A2.1 (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with P2S#12 peptide (VLGWVAEL; SEQ ID NO: 306), which is derived from the P502S gene (also referred to herein as J1-17, SEQ ID NO: 8), as described by Theobald et al., *Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995 with the following modifications. Mice were immunized with 100µg of P2S#12 and 120µg of an I-A^b binding peptide derived from hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and using a nylon mesh single cell suspensions prepared. Cells were then resuspended at 6×10^6 cells/ml in complete media (RPMI-1640; Gibco BRL, Gaithersburg, MD) containing 10% FCS, 2mM Glutamine (Gibco BRL), sodium pyruvate (Gibco BRL), non-essential amino acids (Gibco BRL), 2×10^{-5} M 2-mercaptoethanol, 50U/ml penicillin and streptomycin, and cultured in the presence of irradiated (3000 rads) P2S#12-pulsed (5mg/ml P2S#12 and 10mg/ml β2-microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of 7µg/ml dextran sulfate and 25µg/ml LPS for 3 days). Six days later, cells (5×10^5 /ml) were restimulated with 2.5×10^6 /ml peptide pulsed irradiated (20,000 rads) EL4A2Kb cells (Sherman et al, *Science* 258:815-818, 1992) and 3×10^6 /ml A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20U/ml IL-2. Cells continued to be restimulated on a weekly basis as described, in preparation for cloning the line.

P2S#12 line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells

as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, clones that were growing were isolated and maintained in culture. Several of these clones demonstrated significantly higher reactivity (lysis) against human fibroblasts (HLA A2.1 expressing) transduced with P502S than against control fibroblasts. An example is presented in Figure 1.

This data indicates that P2S #12 represents a naturally processed epitope of the P502S protein that is expressed in the context of the human HLA A2.1 molecule.

6.2. This Example illustrates the preparation of murine CTL lines and CTL clones specific for cells expressing the P501S gene.

This series of experiments were performed similarly to that described above. Mice were immunized with the P1S#10 peptide (SEQ ID NO: 337), which is derived from the P501S gene (also referred to herein as L1-12, SEQ ID NO: 110). The P1S#10 peptide was derived by analysis of the predicted polypeptide sequence for P501S for potential HLA-A2 binding sequences as defined by published HLA-A2 binding motifs (Parker, KC, *et al*, *J. Immunol.*, 152:163, 1994). P1S#10 peptide was synthesized as described in Example 4, and empirically tested for HLA-A2 binding using a T cell based competition assay. Predicted A2 binding peptides were tested for their ability to compete HLA-A2 specific peptide presentation to an HLA-A2 restricted CTL clone (D150M58), which is specific for the HLA-A2 binding influenza matrix peptide fluM58. D150M58 CTL secretes TNF in response to self-presentation of peptide fluM58. In the competition assay, test peptides at 100-200 $\mu\text{g/ml}$ were added to cultures of D150M58 CTL in order to bind HLA-A2 on the CTL. After thirty minutes, CTL cultured with test peptides, or control peptides, were tested for their antigen dose response to the fluM58 peptide in a standard TNF bioassay. As shown in Figure 3, peptide P1S#10 competes HLA-A2 restricted presentation of fluM58, demonstrating that peptide P1S#10 binds HLA-A2.

Mice expressing the transgene for human HLA A2.1 were immunized as described by Theobald et al. (*Proc. Natl. Acad. Sci. USA* 92:11993-11997, 1995) with the following modifications. Mice were immunized with 62.5 μg of P1S #10 and 120 μg

of an I-A^b binding peptide derived from Hepatitis B Virus protein emulsified in incomplete Freund's adjuvant. Three weeks later these mice were sacrificed and single cell suspensions prepared using a nylon mesh. Cells were then resuspended at 6×10^6 cells/ml in complete media (as described above) and cultured in the presence of irradiated (3000 rads) P1S#10-pulsed ($2\mu\text{g/ml}$ P1S#10 and 10mg/ml $\beta 2$ -microglobulin) LPS blasts (A2 transgenic spleens cells cultured in the presence of $7\mu\text{g/ml}$ dextran sulfate and $25\mu\text{g/ml}$ LPS for 3 days). Six days later cells ($5 \times 10^5/\text{ml}$) were restimulated with $2.5 \times 10^6/\text{ml}$ peptide-pulsed irradiated (20,000 rads) EL4A2Kb cells, as described above, and $3 \times 10^6/\text{ml}$ A2 transgenic spleen feeder cells. Cells were cultured in the presence of 20 U/ml IL-2. Cells were restimulated on a weekly basis in preparation for cloning. After three rounds of *in vitro* stimulations, one line was generated that recognized P1S#10-pulsed Jurkat A2Kb targets and P501S-transduced Jurkat targets as shown in Figure 4.

A P1S#10-specific CTL line was cloned by limiting dilution analysis with peptide pulsed EL4 A2Kb tumor cells (1×10^4 cells/ well) as stimulators and A2 transgenic spleen cells as feeders (5×10^5 cells/ well) grown in the presence of 30U/ml IL-2. On day 14, cells were restimulated as before. On day 21, viable clones were isolated and maintained in culture. As shown in Figure 5, five of these clones demonstrated specific cytolytic reactivity against P501S-transduced Jurkat A2Kb targets. This data indicates that P1S#10 represents a naturally processed epitope of the P501S protein that is expressed in the context of the human HLA-A2.1 molecule.

EXAMPLE 7

ABILITY OF HUMAN T CELLS TO RECOGNIZE PROSTATE TUMOR POLYPEPTIDES

This Example illustrates the ability of T cells specific for a prostate tumor polypeptide to recognize human tumor.

Human CD8⁺ T cells were primed *in vitro* to the P2S-12 peptide (SEQ ID NO: 306) derived from P502S (also referred to as J1-17) using dendritic cells according to the protocol of Van Tsai et al. (*Critical Reviews in Immunology* 18:65-75, 1998). The resulting CD8⁺ T cell microcultures were tested for their ability to recognize the P2S-12 peptide presented by autologous fibroblasts or fibroblasts which were transduced to express the P502S gene in a γ -interferon ELISPOT assay (see Lalvani et al., *J. Exp. Med.* 186:859-865, 1997). Briefly, titrating numbers of T cells were assayed in duplicate on 10⁴ fibroblasts in the presence of 3 μ g/ml human β_2 -microglobulin and 1 μ g/ml P2S-12 peptide or control E75 peptide. In addition, T cells were simultaneously assayed on autologous fibroblasts transduced with the P502S gene or as a control, fibroblasts transduced with HER-2/*neu*. Prior to the assay, the fibroblasts were treated with 10 ng/ml γ -interferon for 48 hours to upregulate class I MHC expression. One of the microcultures (#5) demonstrated strong recognition of both peptide pulsed fibroblasts as well as transduced fibroblasts in a γ -interferon ELISPOT assay. Figure 2A demonstrates that there was a strong increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts pulsed with the P2S-12 peptide (solid bars) but not with the control E75 peptide (open bars). This shows the ability of these T cells to specifically recognize the P2S-12 peptide. As shown in Figure 2B, this microculture also demonstrated an increase in the number of γ -interferon spots with increasing numbers of T cells on fibroblasts transduced to express the P502S gene but not the HER-2/*neu* gene. These results provide additional confirmatory evidence that the P2S-12 peptide is a naturally processed epitope of the P502S protein. Furthermore, this also demonstrates that there exists in the human T cell repertoire, high affinity T cells which are capable of recognizing this epitope. These T cells should also be capable of recognizing human tumors which express the P502S gene.

EXAMPLE 8

PRIMING OF CTL *IN VIVO* USING NAKED DNA IMMUNIZATION WITH A PROSTATE ANTIGEN

The prostate tumor antigen L1-12, as described above, is also referred to as P501S. HLA A2Kb Tg mice (provided by Dr L. Sherman, The Scripps Research Institute, La Jolla, CA) were immunized with 100 µg VR10132-P501S either intramuscularly or intradermally. The mice were immunized three times, with a two week interval between immunizations. Two weeks after the last immunization, immune spleen cells were cultured with Jurkat A2Kb-P501S transduced stimulator cells. CTL lines were stimulated weekly. After two weeks of *in vitro* stimulation, CTL activity was assessed against P501S transduced targets. Two out of 8 mice developed strong anti-P501S CTL responses. These results demonstrate that P501S contains at least one naturally processed A2-restricted CTL epitope.

EXAMPLE 9

GENERATION OF HUMAN CTL *IN VITRO* USING WHOLE GENE PRIMING AND STIMULATION TECHNIQUES WITH PROSTATE TUMOR ANTIGEN

Using *in vitro* whole-gene priming with P501S-retrovirally transduced autologous fibroblasts (see, for example, Yee et al, *The Journal of Immunology*, 157(9):4079-86, 1996), human CTL lines were derived that specifically recognize autologous fibroblasts transduced with P501S (also known as L1-12), as determined by interferon-γ ELISPOT analysis as described above. Using a panel of HLA-mismatched fibroblast lines transduced with P501S, these CTL lines were shown to be restricted HLA-A2 class I allele. Specifically, dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by growing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, DC were infected overnight with recombinant P501S vaccinia virus at a multiplicity of infection (M.O.I) of five, and matured

overnight by the addition of 3 µg/ml CD40 ligand. Virus was inactivated by UV irradiation. CD8+ T cells were isolated using a magnetic bead system, and priming cultures were initiated using standard culture techniques. Cultures were restimulated every 7-10 days using autologous primary fibroblasts retrovirally transduced with P501S. Following four stimulation cycles, CD8+ T cell lines were identified that specifically produced interferon-γ when stimulated with P501S-transduced autologous fibroblasts. The P501S-specific activity could be sustained by the continued stimulation of the cultures with P501S-transduced fibroblasts in the presence of IL-15. A panel of HLA-mismatched fibroblast lines transduced with P501S were generated to define the restriction allele of the response. By measuring interferon-γ in an ELISPOT assay, the P501S specific response was shown to be restricted by HLA-A2. These results demonstrate that a CD8+ CTL response to P501S can be elicited.

EXAMPLE 10

IDENTIFICATION OF A NATURALLY PROCESSED CTL EPITOPE CONTAINED WITHIN A PROSTATE TUMOR ANTIGEN

The 9-mer peptide p5 (SEQ ID NO: 338) was derived from the P703P antigen (also referred to as P20). The p5 peptide is immunogenic in human HLA-A2 donors and is a naturally processed epitope. Antigen specific CD8+ T cells can be primed following repeated *in vitro* stimulations with monocytes pulsed with p5 peptide. These CTL specifically recognize p5-pulsed target cells in both ELISPOT (as described above) and chromium release assays. Additionally, immunization of HLA-A2 transgenic mice with p5 leads to the generation of CTL lines which recognize a variety of P703P transduced target cells expressing either HLA-A2Kb or HLA-A2. Specifically, HLA-A2 transgenic mice were immunized subcutaneously in the footpad with 100 µg of p5 peptide together with 140 µg of hepatitis B virus core peptide (a Th peptide) in Freund's incomplete adjuvant. Three weeks post immunization, spleen cells from immunized mice were stimulated *in vitro* with peptide-pulsed LPS blasts. CTL activity was assessed by chromium release assay five days after primary *in vitro*

stimulation. Retrovirally transduced cells expressing the control antigen P703P and HLA-A2Kb were used as targets. CTL lines that specifically recognized both p5-pulsed targets as well as P703P-expressing targets were identified.

Human *in vitro* priming experiments demonstrated that the p5 peptide is immunogenic in humans. Dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal human donors by culturing for five days in RPMI medium containing 10% human serum, 50 ng/ml human GM-CSF and 30 ng/ml human IL-4. Following culture, the DC were pulsed with p5 peptide and cultured with GM-CSF and IL-4 together with CD8+ T cell enriched PBMC. CTL lines were restimulated on a weekly basis with p5-pulsed monocytes. Five to six weeks after initiation of the CTL cultures, CTL recognition of p5-pulsed target cells was demonstrated.

EXAMPLE 11

EXPRESSION OF A BREAST TUMOR-DERIVED ANTIGEN IN PROSTATE

Isolation of the antigen B305D from breast tumor by differential display is described in US Patent Application No. 08/700,014, filed August 20, 1996. Several different splice forms of this antigen were isolated. The determined cDNA sequences for these splice forms are provided in SEQ ID NO: 366-375, with the predicted amino acid sequences corresponding to the sequences of SEQ ID NO: 292, 298 and 301-303 being provided in SEQ ID NO: 299-306, respectively.

The expression levels of B305D in a variety of tumor and normal tissues were examined by real time PCR and by Northern analysis. The results indicated that B305D is highly expressed in breast tumor, prostate tumor, normal prostate tumor and normal testes, with expression being low or undetectable in all other tissues examined (colon tumor, lung tumor, ovary tumor, and normal bone marrow, colon, kidney, liver, lung, ovary, skin, small intestine, stomach).

EXAMPLE 12

ELICITATION OF PROSTATE TUMOR ANTIGEN-SPECIFIC CTL RESPONSES IN HUMAN BLOOD

This Example illustrates the ability of a prostate tumor antigen to elicit a CTL response in blood of normal humans.

Autologous dendritic cells (DC) were differentiated from monocyte cultures derived from PBMC of normal donors by growth for five days in RPMI medium containing 10% human serum, 50 ng/ml GMCSF and 30 ng/ml IL-4. Following culture, DC were infected overnight with recombinant P501S-expressing vaccinia virus at an M.O.I. of 5 and matured for 8 hours by the addition of 2 micrograms/ml CD40 ligand. Virus was inactivated by UV irradiation, CD8⁺ cells were isolated by positive selection using magnetic beads, and priming cultures were initiated in 24-well plates. Following five stimulation cycles, CD8⁺ lines were identified that specifically produced interferon-gamma when stimulated with autologous P501S-transduced fibroblasts. The P501S-specific activity of cell line 3A-1 could be maintained following additional stimulation cycles on autologous B-LCL transduced with P501S. Line 3A-1 was shown to specifically recognize autologous B-LCL transduced to express P501S, but not EGFP-transduced autologous B-LCL, as measured by cytotoxicity assays (⁵¹Cr release) and interferon-gamma production (Interferon-gamma Elispot; *see above and Lalvani et al., J. Exp. Med. 186:859-865, 1997*). The results of these assays are presented in Figures 6A and 6B.

EXAMPLE 13

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of certain prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 372 clones were identified, and 319 were successfully sequenced. Table I presents a summary of these clones, which are shown in SEQ ID NOs:385-400. Of these sequences SEQ ID NOs:386, 389, 390 and 392 correspond to novel genes, and SEQ ID NOs: 393 and 396 correspond to previously identified sequences. The others (SEQ ID NOs:385, 387, 388, 391, 394, 395 and 397-400) correspond to known sequences, as shown in Table I.

Table I
Summary of Prostate Tumor Antigens

Known Genes	Previously identified Genes	Novel Genes
T-cell gamma chain	P504S	23379 (SEQ ID NO:389)
Kallikrein	P1000C	23399 (SEQ ID NO:392)
Vector	P501S	23320 (SEQ ID NO:386)
CGI-82 protein mRNA (23319; SEQ ID NO:385)	P503S	23381 (SEQ ID NO:390)
PSA	P510S	
Ald. 6 Dehyd.	P784P	
L-idoitol-2 dehydrogenase (23376; SEQ ID NO:388)	P502S	
Ets transcription factor PDEF (22672; SEQ ID NO:398)	P706P	
hTGR (22678; SEQ ID NO:399)	19142.2, bangur.seq (22621; SEQ ID NO:396)	
KIAA0295(22685; SEQ ID NO:400)	5566.1 Wang(23404; SEQ ID NO:393)	
Prostatic Acid Phosphatase(22655; SEQ ID NO:397)	P712P	
transglutaminase (22611; SEQ ID NO:395)	P778P	
HDLBP (23508; SEQ ID NO:394)		
CGI-69 Protein(23367; SEQ ID NO:387)		
KIAA0122(23383; SEQ ID NO:391)		
TEEG		

CGI-82 showed 4.06 fold over-expression in prostate tissues as

compared to other normal tissues tested. It was over-expressed in 43% of prostate tumors, 25% normal prostate, not detected in other normal tissues tested. L-idoitol-2 dehydrogenase showed 4.94 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 90% of prostate tumors, 100% of normal prostate, and not detected in other normal tissues tested. Ets transcription factor PDEF showed 5.55 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% prostate tumors, 25% normal prostate and not detected in other normal tissues tested. hTGR1 showed 9.11 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 63% of prostate tumors and is not detected in normal tissues tested including normal prostate. KIAA0295 showed 5.59 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 47% of prostate tumors, low to undetectable in normal tissues tested including normal prostate tissues. Prostatic acid phosphatase showed 9.14 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 67% of prostate tumors, 50% of normal prostate, and not detected in other normal tissues tested. Transglutaminase showed 14.84 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 30% of prostate tumors, 50% of normal prostate, and is not detected in other normal tissues tested. High density lipoprotein binding protein (HDLBP) showed 28.06 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% of normal prostate, and is undetectable in all other normal tissues tested. CGI-69 showed 3.56 fold over-expression in prostate tissues as compared to other normal tissues tested. It is a low abundant gene, detected in more than 90% of prostate tumors, and in 75% normal prostate tissues. The expression of this gene in normal tissues was very low. KIAA0122 showed 4.24 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 57% of prostate tumors, it was undetectable in all normal tissues tested including normal prostate tissues. 19142.2 bangur showed 23.25 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors and 100% of

normal prostate. It was undetectable in other normal tissues tested. 5566.1 Wang showed 3.31 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 97% of prostate tumors, 75% normal prostate and was also over-expressed in normal bone marrow, pancreas, and activated PBMC. Novel clone 23379 showed 4.86 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in 97% of prostate tumors and 75% normal prostate and is undetectable in all other normal tissues tested. Novel clone 23399 showed 4.09 fold over-expression in prostate tissues as compared to other normal tissues tested. It was over-expressed in 27% of prostate tumors and was undetectable in all normal tissues tested including normal prostate tissues. Novel clone 23320 showed 3.15 fold over-expression in prostate tissues as compared to other normal tissues tested. It was detectable in all prostate tumors and 50% of normal prostate tissues. It was also expressed in normal colon and trachea. Other normal tissues do not express this gene at high level.

EXAMPLE 14

IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY ELECTRONIC SUBTRACTION

This Example describes the use of an electronic subtraction technique to identify prostate tumor antigens.

Potential prostate-specific genes present in the GenBank human EST database were identified by electronic subtraction (similar to that described by Vasmatizis et al., *Proc. Natl. Acad. Sci. USA* 95:300-304, 1998). The sequences of EST clones (43,482) derived from various prostate libraries were obtained from the GenBank public human EST database. Each prostate EST sequence was used as a query sequence in a BLASTN (National Center for Biotechnology Information) search against the human EST database. All matches considered identical (length of matching sequence >100 base pairs, density of identical matches over this region > 70%) were grouped

(aligned) together in a cluster. Clusters containing more than 200 ESTs were discarded since they probably represented repetitive elements or highly expressed genes such as those for ribosomal proteins. If two or more clusters shared common ESTs, those clusters were grouped together into a "supercluster," resulting in 4,345 prostate superclusters.

Records for the 479 human cDNA libraries represented in the GenBank release were downloaded to create a database of these cDNA library records. These 479 cDNA libraries were grouped into three groups, Plus (normal prostate and prostate tumor libraries, and breast cell lines, in which expression was desired), Minus (libraries from other normal adult tissues, in which expression was not desirable), and Other (fetal tissue, infant tissue, tissues found only in women, non-prostate tumors and cell lines other than prostate cell lines, in which expression was considered to be irrelevant). A summary of these library groups is presented in Table II.

Table II
Prostate cDNA Libraries and ESTs

Library	# of Libraries	# of ESTs
Plus	25	43,482
Normal	11	18,875
Tumor	11	21,769
Cell lines	3	2,838
Minus	166	
Other	287	

Each supercluster was analyzed in terms of the ESTs within the supercluster. The tissue source of each EST clone was noted and used to classify the superclusters into four groups: Type 1- EST clones found in the Plus group libraries only; no expression detected in Minus or Other group libraries; Type 2- EST clones found in the Plus and Other group libraries only; no expression detected in the Minus group; Type 3- EST clones found in the Plus, Minus and Other group libraries, but the

expression in the Plus group is higher than in either the Minus or Other groups; and Type 4- EST clones found in Plus, Minus and Other group libraries, but the expression in the Plus group is higher than the expression in the Minus group. This analysis identified 4,345 breast clusters (*see* Table III). From these clusters, 3,172 EST clones were ordered from Research Genetics, Inc., and were received as frozen glycerol stocks in 96-well plates.

Table III
Prostate Cluster Summary

Type	# of Superclusters	# of ESTs Ordered
1	688	677
2	2899	2484
3	85	11
4	673	0
Total	4345	3172

The inserts were PCR-amplified using amino-linked PCR primers for Synteni microarray analysis. When more than one PCR product was obtained for a particular clone, that PCR product was not used for expression analysis. In total, 2,528 clones from the electronic subtraction method were analyzed by microarray analysis to identify electronic subtraction breast clones that had high tumor vs. normal tissue mRNA. Such screens were performed using a Synteni (Palo Alto, CA) microarray, according to the manufacturer's instructions (and essentially as described by Schena et al., *Proc. Natl. Acad. Sci. USA* 93:10614-10619, 1996 and Heller et al., *Proc. Natl. Acad. Sci. USA* 94:2150-2155, 1997). Within these analyses, the clones were arrayed on the chip, which was then probed with fluorescent probes generated from normal and tumor prostate cDNA, as well as various other normal tissues. The slides were scanned and the fluorescence intensity was measured.

Clones with an expression ratio greater than 3 (*i.e.*, the level in prostate tumor cDNA was at least three times the level in normal prostate cDNA) were

identified as prostate tumor-specific sequences (Table IV). The sequences of these clones are provided in SEQ ID NOs:401-453, with certain novel sequences shown in SEQ ID NOs:407, 413, 416-419, 422, 426, 427 and 450.

Table IV
Prostate-tumor Specific Clones

SEQ ID NO.	Sequence Designation	Comments
401	22545	previously identified P1000C
402	22547	previously identified P704P
403	22548	known
404	22550	known
405	22551	PSA
406	22552	prostate secretory protein 94
407	22553	novel
408	22558	previously identified P509S
409	22562	glandular kallikrein
410	22565	previously identified P1000C
411	22567	PAP
412	22568	B1006C (breast tumor antigen)
413	22570	novel
414	22571	PSA
415	22572	previously identified P706P
416	22573	novel
417	22574	novel
418	22575	novel
419	22580	novel
420	22581	PAP
421	22582	prostatic secretory protein 94
422	22583	novel
423	22584	prostatic secretory protein 94
424	22585	prostatic secretory protein 94
425	22586	known
426	22587	novel
427	22588	novel
428	22589	PAP
429	22590	known
430	22591	PSA
431	22592	known
432	22593	Previously identified P777P

433	22594	T cell receptor gamma chain
434	22595	Previously identified P705P
435	22596	Previously identified P707P
436	22847	PAP
437	22848	known
438	22849	prostatic secretory protein 57
439	22851	PAP
440	22852	PAP
441	22853	PAP
442	22854	previously identified P509S
443	22855	previously identified P705P
444	22856	previously identified P774P
445	22857	PSA
446	23601	previously identified P777P
447	23602	PSA
448	23605	PSA
449	23606	PSA
450	23612	novel
451	23614	PSA
452	23618	previously identified P1000C
453	23622	previously identified P705P

EXAMPLE 15

FURTHER IDENTIFICATION OF PROSTATE TUMOR ANTIGENS BY MICROARRAY ANALYSIS

This Example describes the isolation of additional prostate tumor polypeptides from a prostate tumor cDNA library.

A human prostate tumor cDNA expression library as described above was screened using microarray analysis to identify clones that display at least a three fold over-expression in prostate tumor and/or normal prostate tissue, as compared to non-prostate normal tissues (not including testis). 142 clones were identified and sequenced. Certain of these clones are shown in SEQ ID NOs:454-467. Of these sequences SEQ ID NOs:459-461 correspond to novel genes. The others (SEQ ID NOs:454-458 and 461-467) correspond to known sequences.

EXAMPLE 16

FURTHER CHARACTERIZATION OF PROSTATE TUMOR ANTIGEN P710P

This Example describes the full length cloning of P710P.

The prostate cDNA library described above was screened with the P710P fragment described above. One million colonies were plated on LB/Ampicillin plates. Nylon membrane filters were used to lift these colonies, and the cDNAs picked up by these filters were then denatured and cross-linked to the filters by UV light. The P710P fragment was radiolabeled and used to hybridize with the filters. Positive cDNA clones were selected and their cDNAs recovered and sequenced by an automatic ABI Sequencer. Four sequences were obtained, and are presented in SEQ ID NOs:468-471.

From the foregoing, it will be appreciated that, although specific embodiments of the invention have been described herein for the purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the present invention is not limited except as by the appended claims.

CLAIMS

1. An isolated polypeptide comprising at least an immunogenic portion of a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(a) sequences recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472;

(b) sequences that hybridize to any of the foregoing sequences under moderately stringent conditions; and

(c) complements of any of the sequence of (a) or (b).

2. An isolated polypeptide according to claim 1, wherein the polypeptide comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotide sequences.

3. An isolated polypeptide comprising a sequence recited in any one of SEQ ID NO: 108, 112, 113, 114, 172, 176, 178, 327, 329, 331, 339 and 383.

4. An isolated polynucleotide encoding at least 15 amino acid residues of a prostate tumor protein, or a variant thereof that differs in one or more

substitutions, deletions, additions and/or insertions such that the ability of the variant to react with antigen-specific antisera is not substantially diminished, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

5. An isolated polynucleotide encoding a prostate tumor protein, or a variant thereof, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing sequences.

6. An isolated polynucleotide comprising a sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

7. An isolated polynucleotide comprising a sequence that hybridizes, under moderately stringent conditions, to a sequence recited in any one of

SEQ ID NOs: 2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

8. An isolated polynucleotide complementary to a polynucleotide according to any one of claims 4-7.

9. An expression vector comprising a polynucleotide according to any one of claims 4-7.

10. A host cell transformed or transfected with an expression vector according to claim 9.

11. An expression vector comprising a polynucleotide according claim 8.

12. A host cell transformed or transfected with an expression vector according to claim 11.

13. A pharmaceutical composition comprising a polypeptide according to claim 1, in combination with a physiologically acceptable carrier.

14. A vaccine comprising a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

15. A vaccine according to claim 14, wherein the non-specific immune response enhancer is an adjuvant.

16. A vaccine according to claim 14, wherein the non-specific immune response enhancer induces a predominantly Type I response.
17. A pharmaceutical composition comprising a polynucleotide according to claim 4, in combination with a physiologically acceptable carrier.
18. A vaccine comprising a polynucleotide according to claim 4, in combination with a non-specific immune response enhancer.
19. A vaccine according to claim 18, wherein the non-specific immune response enhancer is an adjuvant.
20. A vaccine according to claim 18, wherein the non-specific immune response enhancer induces a predominantly Type I response.
21. An isolated antibody, or antigen-binding fragment thereof, that specifically binds to a prostate tumor protein that comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472 or a complement of any of the foregoing polynucleotide sequences.
22. A pharmaceutical composition comprising an antibody or fragment thereof according to claim 18, in combination with a physiologically acceptable carrier.

23. A pharmaceutical composition comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a pharmaceutically acceptable carrier or excipient.

24. A pharmaceutical composition according to claim 23, wherein the antigen presenting cell is a dendritic cell or a macrophage.

25. A vaccine comprising an antigen-presenting cell that expresses a polypeptide according to claim 1, in combination with a non-specific immune response enhancer.

26. A vaccine according to claim 25, wherein the non-specific immune response enhancer is an adjuvant.

27. A vaccine according to claim 25, wherein the non-specific immune response enhancer induces a predominantly Type I response.

28. A vaccine according to claim 25, wherein the antigen-presenting cell is a dendritic cell.

29. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

30. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a polynucleotide according to claim 4, and thereby inhibiting the development of a cancer in the patient.

31. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antibody or antigen-

binding fragment thereof according to claim 21, and thereby inhibiting the development of a cancer in the patient.

32. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of an antigen-presenting cell that expresses a polypeptide according to claim 1, and thereby inhibiting the development of a cancer in the patient.

33. A method according to claim 32, wherein the antigen-presenting cell is a dendritic cell.

34. A method according to any one of claims 29-32, wherein the cancer is prostate cancer.

35. A fusion protein comprising at least one polypeptide according to claim 1.

36. A fusion protein according to claim 35, wherein the fusion protein comprises an expression enhancer that increases expression of the fusion protein in a host cell transfected with a polynucleotide encoding the fusion protein.

37. A fusion protein according to claim 35, wherein the fusion protein comprises a T helper epitope that is not present within the polypeptide of claim 1.

38. A fusion protein according to claim 35, wherein the fusion protein comprises an affinity tag.

39. An isolated polynucleotide encoding a fusion protein according to claim 35.

40. A pharmaceutical composition comprising a fusion protein according to claim 32, in combination with a physiologically acceptable carrier.

41. A vaccine comprising a fusion protein according to claim 35, in combination with a non-specific immune response enhancer.

42. A vaccine according to claim 41, wherein the non-specific immune response enhancer is an adjuvant.

43. A vaccine according to claim 41, wherein the non-specific immune response enhancer induces a predominantly Type I response.

44. A pharmaceutical composition comprising a polynucleotide according to claim 40, in combination with a physiologically acceptable carrier.

45. A vaccine comprising a polynucleotide according to claim 40, in combination with a non-specific immune response enhancer.

46. A vaccine according to claim 45, wherein the non-specific immune response enhancer is an adjuvant.

47. A vaccine according to claim 45, wherein the non-specific immune response enhancer induces a predominantly Type I response.

48. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a pharmaceutical composition according to claim 40 or claim 44.

49. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a vaccine according to claim 41 or claim 45.

50. A method for removing tumor cells from a biological sample, comprising contacting a biological sample with T cells that specifically react with a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:

(i) polynucleotides recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and

(ii) complements of the foregoing polynucleotides;

wherein the step of contacting is performed under conditions and for a time sufficient to permit the removal of cells expressing the prostate tumor protein from the sample.

51. A method according to claim 50, wherein the biological sample is blood or a fraction thereof.

52. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient a biological sample treated according to the method of claim 50.

53. A method for stimulating and/or expanding T cells specific for a prostate tumor protein, comprising contacting T cells with one or more of:

(i) a polypeptide according to claim 1;

(ii) a polypeptide encoded by a polynucleotide comprising a sequence provided in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;

(iii) a polynucleotide encoding a polypeptide of (i) or (ii); and/or

(iv) an antigen presenting cell that expresses a polypeptide of (i) or (ii);

under conditions and for a time sufficient to permit the stimulation and/or expansion of T cells.

54. An isolated T cell population, comprising T cells prepared according to the method of claim 53.

55. A method for inhibiting the development of a cancer in a patient, comprising administering to a patient an effective amount of a T cell population according to claim 54.

56. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

(a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:

(i) a polypeptide according to claim 1;

(ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;

(iii) a polynucleotide encoding a polypeptide of (i) or (ii); or

(iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);

such that T cells proliferate; and

(b) administering to the patient an effective amount of the proliferated T cells, and thereby inhibiting the development of a cancer in the patient.

57. A method for inhibiting the development of a cancer in a patient, comprising the steps of:

- (a) incubating CD4⁺ and/or CD8⁺ T cells isolated from a patient with at least one component selected from the group consisting of:
- (i) a polypeptide according to claim 1;
 - (ii) a polypeptide encoded by a polynucleotide comprising a sequence of any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472;
 - (iii) a polynucleotide encoding a polypeptide of (i) or (ii); or
 - (iv) an antigen-presenting cell that expresses a polypeptide of (i) or (ii);
- such that T cells proliferate;
- (b) cloning at least one proliferated cell; and
- (c) administering to the patient an effective amount of the cloned T cells, and thereby inhibiting the development of a cancer in the patient.

58. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:

- (a) contacting a biological sample obtained from a patient with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence selected from the group consisting of:
- (i) polynucleotides recited in any one of SEQ ID NOs: 1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472; and
 - (ii) complements of the foregoing polynucleotides;
- (b) detecting in the sample an amount of polypeptide that binds to the binding agent; and
- (c) comparing the amount of polypeptide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.

59. A method according to claim 58, wherein the binding agent is an antibody.

60. A method according to claim 59, wherein the antibody is a monoclonal antibody.

61. A method according to claim 58, wherein the cancer is prostate cancer.

62. A method for monitoring the progression of a cancer in a patient, comprising the steps of:

(a) contacting a biological sample obtained from a patient at a first point in time with a binding agent that binds to a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of polypeptide that binds to the binding agent;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polypeptide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

63. A method according to claim 62, wherein the binding agent is an antibody.

64. A method according to claim 63, wherein the antibody is a monoclonal antibody.

65. A method according to claim 62, wherein the cancer is a prostate cancer.
66. A method for determining the presence or absence of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;
 - (b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide; and
 - (c) comparing the amount of polynucleotide that hybridizes to the oligonucleotide to a predetermined cut-off value, and therefrom determining the presence or absence of a cancer in the patient.
67. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.
68. A method according to claim 66, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.
69. A method for monitoring the progression of a cancer in a patient, comprising the steps of:
- (a) contacting a biological sample obtained from a patient with an oligonucleotide that hybridizes to a polynucleotide that encodes a prostate tumor

protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:1-111, 115-171, 173-175, 177, 179-305, 307-315, 326, 328, 330, 332-335, 340-375, 381, 382 or 384-472, or a complement of any of the foregoing polynucleotides;

(b) detecting in the sample an amount of a polynucleotide that hybridizes to the oligonucleotide;

(c) repeating steps (a) and (b) using a biological sample obtained from the patient at a subsequent point in time; and

(d) comparing the amount of polynucleotide detected in step (c) to the amount detected in step (b) and therefrom monitoring the progression of the cancer in the patient.

70. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a polymerase chain reaction.

71. A method according to claim 69, wherein the amount of polynucleotide that hybridizes to the oligonucleotide is determined using a hybridization assay.

72. A diagnostic kit, comprising:

(a) one or more antibodies according to claim 21; and

(b) a detection reagent comprising a reporter group.

73. A kit according to claim 72, wherein the antibodies are immobilized on a solid support.

74. A kit according to claim 73, wherein the solid support comprises nitrocellulose, latex or a plastic material.

75. A kit according to claim 72, wherein the detection reagent comprises an anti-immunoglobulin, protein G, protein A or lectin.

76. A kit according to claim 72, wherein the reporter group is selected from the group consisting of radioisotopes, fluorescent groups, luminescent groups, enzymes, biotin and dye particles.

77. An oligonucleotide comprising 10 to 40 nucleotides that hybridize under moderately stringent conditions to a polynucleotide that encodes a prostate tumor protein, wherein the tumor protein comprises an amino acid sequence that is encoded by a polynucleotide sequence recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472, or a complement of any of the foregoing polynucleotides.

78. A oligonucleotide according to claim 77, wherein the oligonucleotide comprises 10-40 nucleotides recited in any one of SEQ ID NOs:2, 3, 8-29, 41-45, 47-52, 54-65, 70, 73-74, 79, 81, 87, 90, 92, 93, 97, 103, 104, 107, 109-111, 115-160, 171, 173-175, 177, 181, 188, 191, 193, 194, 198, 203, 204, 207, 209, 220, 222-225, 227-305, 307-315, 326, 328, 330, 332, 334, 350-365, 381, 382, 384, 386, 389, 390, 392, 393, 396, 401, 402, 407, 408, 410, 413, 415-419, 422, 426, 427, 432, 434, 435, 442-444, 446, 450, 452, 453, 459-461, 468-471 or 472.

79. A diagnostic kit, comprising:

- (a) an oligonucleotide according to claim 77; and
- (b) a diagnostic reagent for use in a polymerase chain reaction or hybridization assay.

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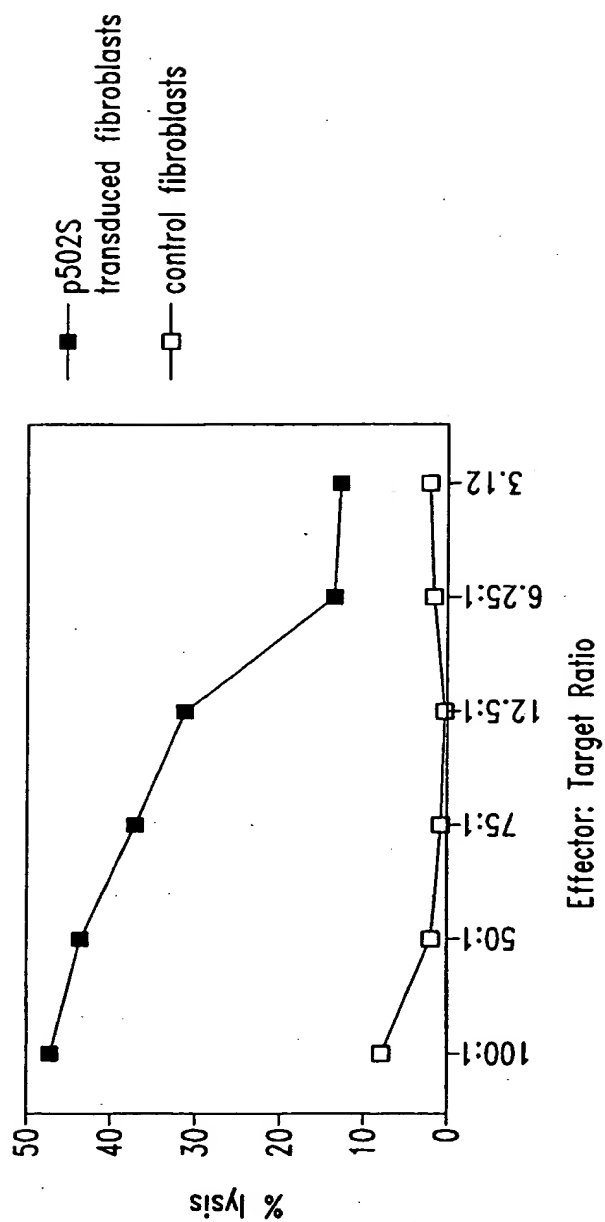
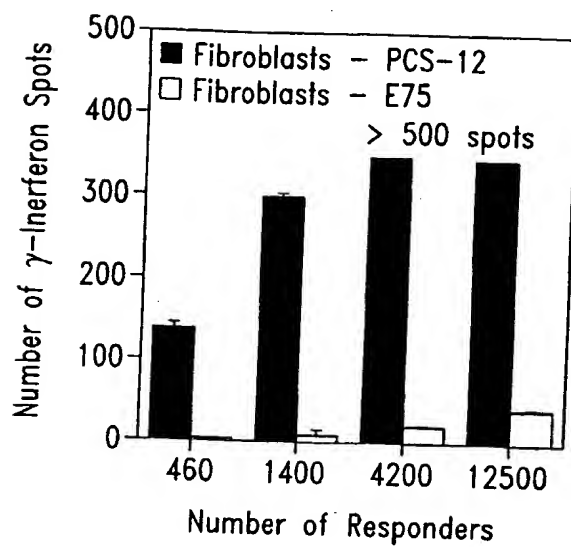
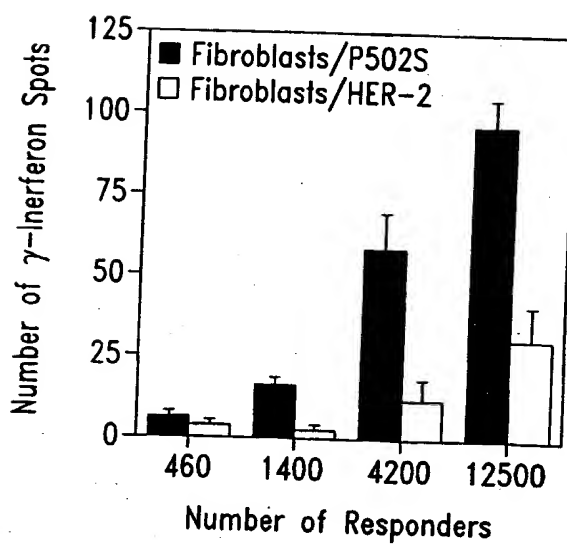


Fig. 1

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*Fig. 2A**Fig. 2B*

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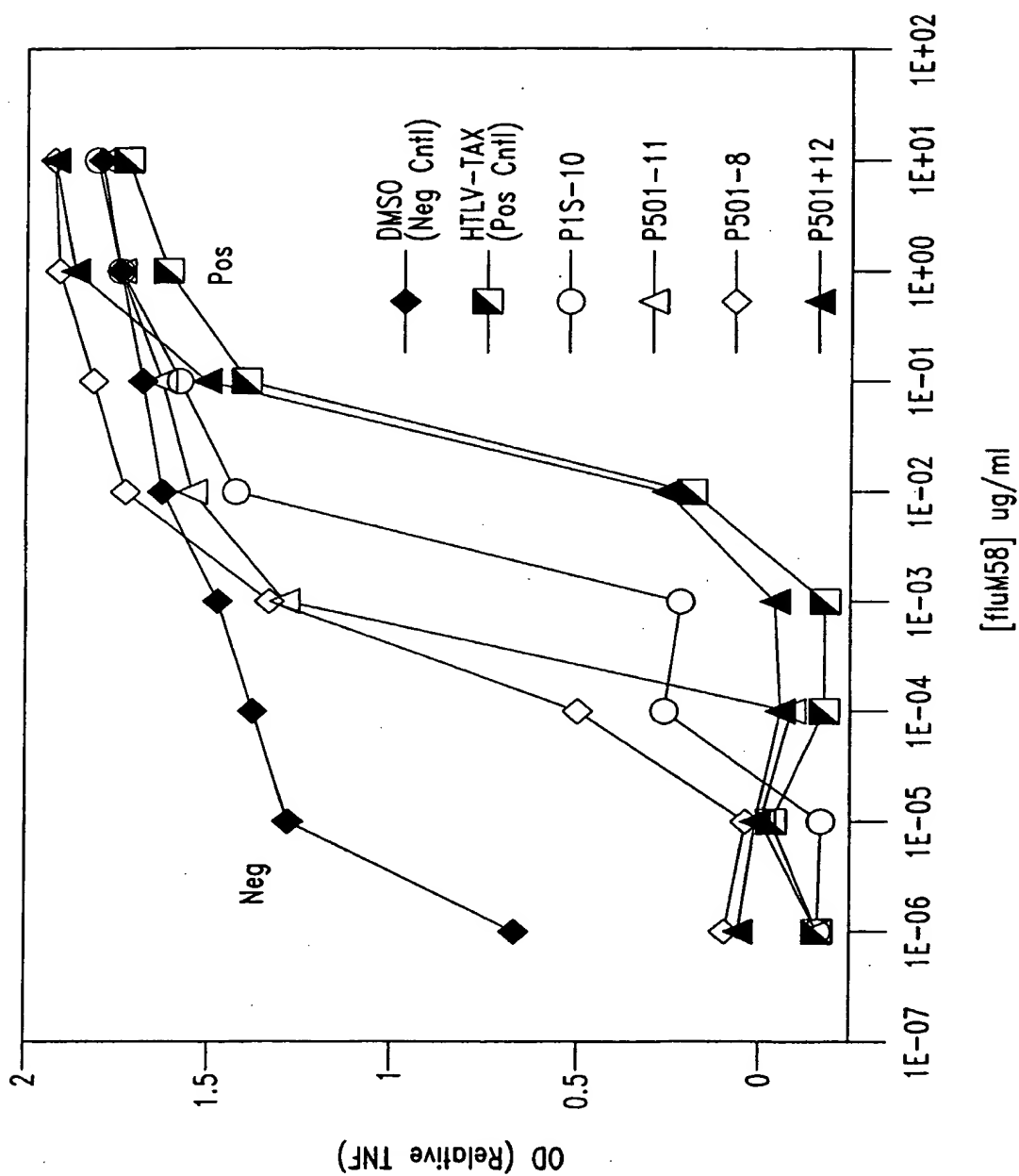


Fig. 3

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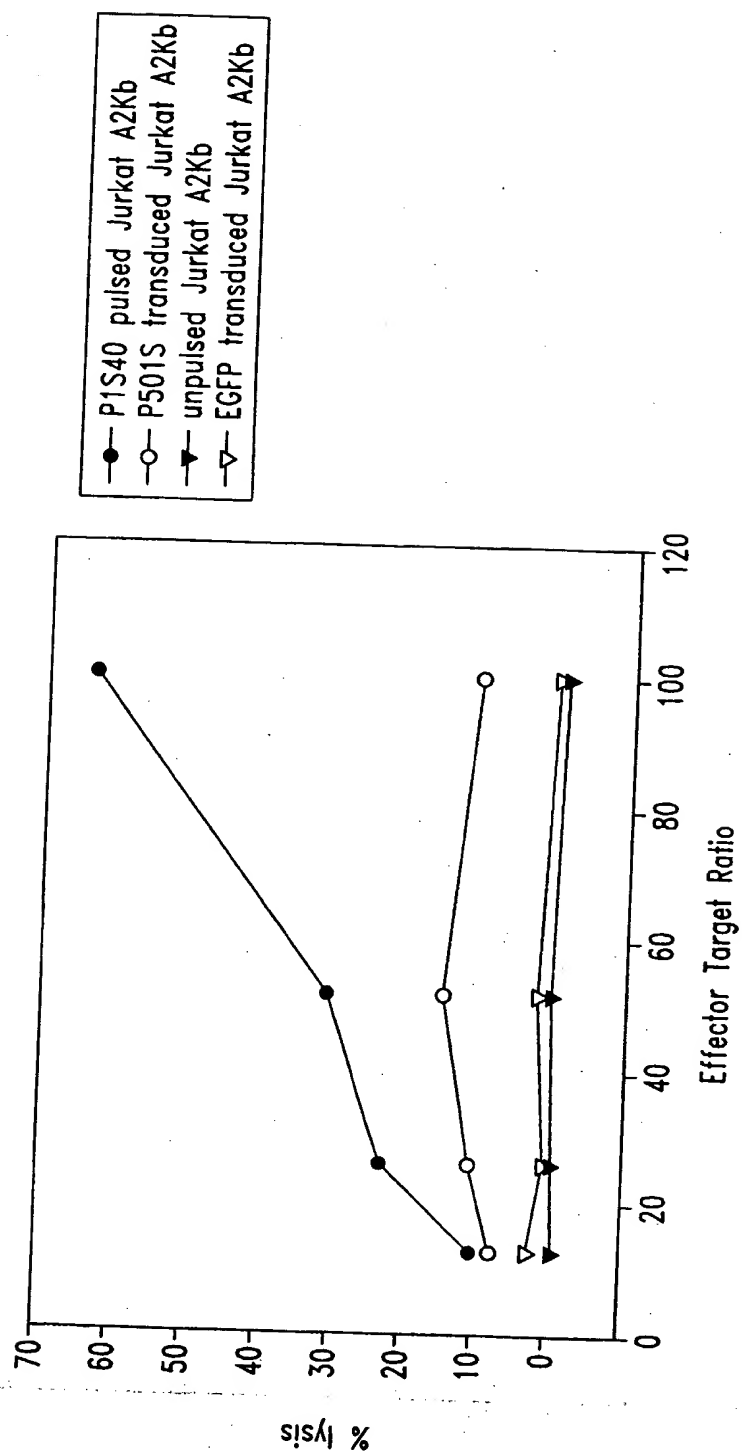


Fig. 4

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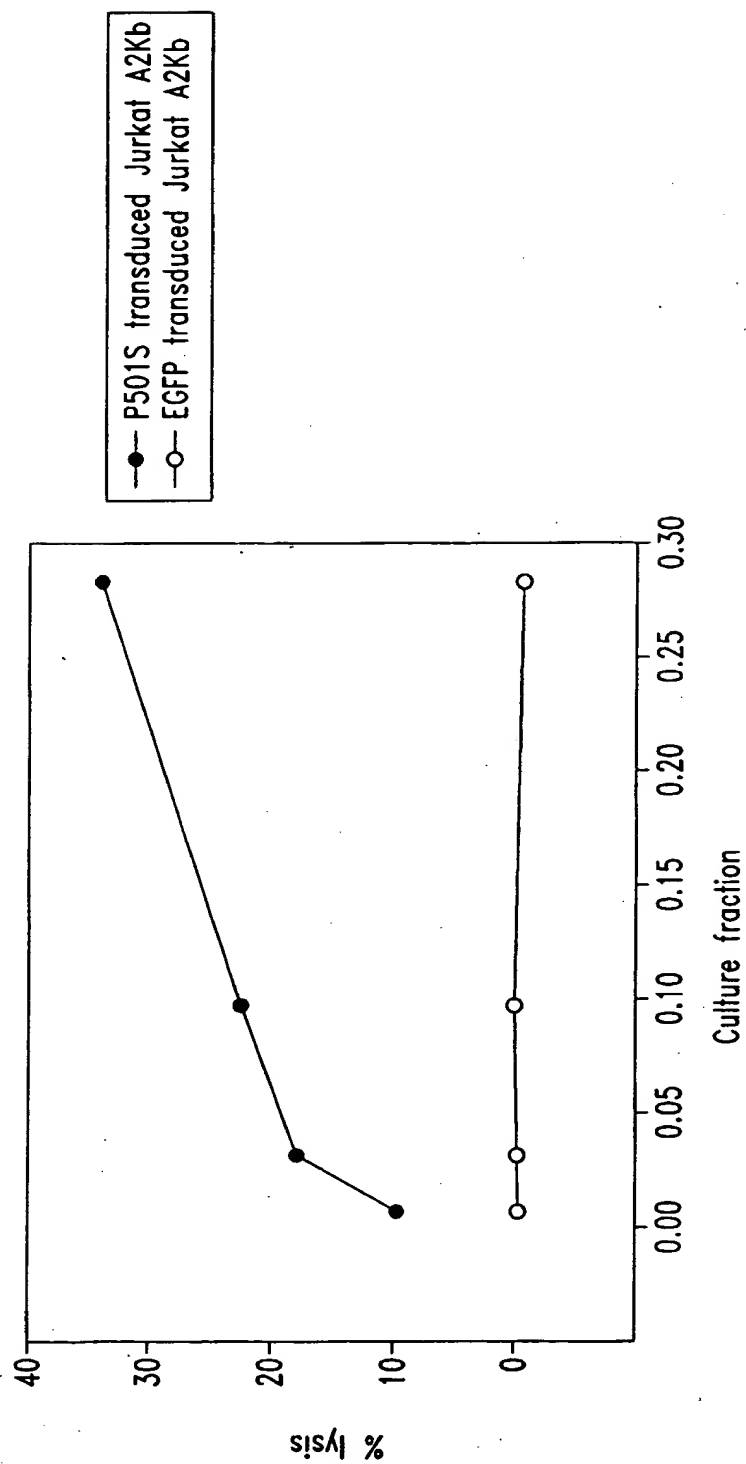
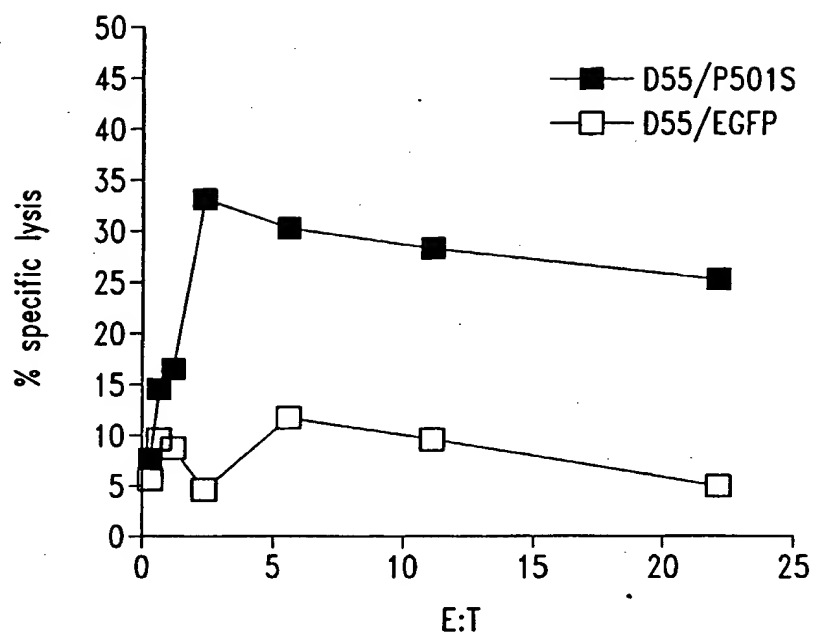
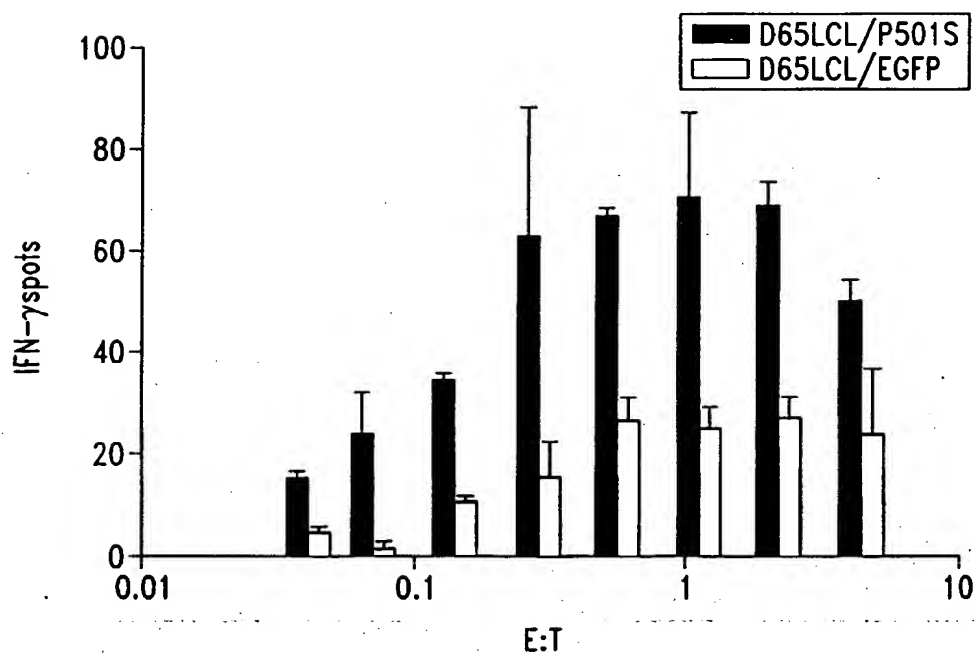


Fig. 5

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*Fig. 6A**Fig. 6B*

SEQUENCE LISTING

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<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
DIAGNOSIS OF PROSTATE CANCER

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tcttgctcct	cactgggtgat	aaacgagccc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tcctcaaaag	tcagaaccgg	agtcacacag	gcattctgtgc	cgtcaaagat	ttgacaccac	180
tctgccttcg	tcttctttgc	aaatacatct	gcaaacttct	tcttcatttc	tgccaatca	240
tccatgctca	tctgattggg	aagttcatca	gactttagtc	canntccttt	gatcagcagc	300
tcgtagaact	ggggttctat	tgctccaaca	gccatgaatt	ccccatctgc	tgtcctgtaa	360
gtcgtataga	aagggtgctcc	accatccaac	atgttctgtc	ctcgaggggg	ggccccgtac	420
ccaattcgcc	ctatantgag	tcgtattacg	cgcgctcact	ggccgtcggt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tgacgacat	ccccctttcg	540
ccagctgggc	gtaatancca	aaaggcccg	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggacccc	cctgttaccg	cgcattnaac	ccccgcnngg	tttngttgtt	660
acccccacnt	nnaccgctta	cactttgcca	gcgccttanc	gcccgtcccc	tttncctttt	720
cttcccttcc	tttncncncn	ctttcccccg	gggtttcccc	cntcaaacc	cna	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

<400> 4						
cctcctgagt	cctactgacc	tgtgctttct	gggtgtggagt	ccagggctgc	taggaaaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	tctgaaatgg	gtataatttc	gtcctctcct	120
tcggaacact	ggctgtctct	gaagacttct	cgctcagttt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttggt	tgtgggggtg	agagatggga	gggggtgggg	ccaccctgga	240
agagtggaca	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcatg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgtgtcctt	360
gnnggcactg	ggaagcctan	atnaggccgt	gagcanaaag	aaggggagga	tccactagtt	420
ctanagcggc	cgccaccg	gtgganctcc	ancttttgtt	cccttttagt	agggttaatt	480
gcgcgcttgg	cntaatcatg	gtcatanctn	tttctgtgtg	gaaattgtta	tccgctcaca	540
attccacaca	acatacganc	cggaacata	aantgtaaac	ctggggtgcc	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgctcact	gcccgttttc	caatcnggaa	acctgtcttg	660
cnccttgcat	tnatgaatcn	gccaaacccc	ggggaaaagc	gtttgcgttt	tgggcgctct	720
tccgcttctt	cncctantta	ntccctnncn	tcggtcattc	cggctgcngc	aaaccggttc	780
accncccca	aaggggggtat	tccggtttcc	ccnaatccgg	ggnananc		828

<210> 5
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 5

tttttttttt	tttttactga	tagatggaat	ttattaagct	tttcacatgt	gatagcacat	60
agttttaatt	gcatacaaa	tactaacaaa	aactctagca	atcaagaatg	gcagcatggt	120
attttataac	aatcaacacc	tgtggctttt	aaaatttggg	tttcataaga	taattttatac	180
tgaagtaa	ctagccatgc	ttttaaaaaa	tgcttttaggt	cactccaagc	ttggcagtta	240
acatttggca	taaaacaata	taaaacaatc	acaattttaat	aaataacaaa	tacaacattg	300
taggccataa	tcatatacag	tataaggaaa	agggtggtagt	ggtgagtaag	cagttatttag	360
aatagaatac	cttggcctct	atgcaaatat	gtctagacac	tttgattcac	tcagccctga	420
cattcagttt	tcaaaagtagg	agacagggttc	tacagtatca	ttttacagtt	tccaacacat	480
tgaaaacaag	tagaaaatga	tgagttgatt	tttattaatg	cattacatcc	tcaagagtta	540
tcaccaaccc	ctcagttata	aaaaattttc	aagttatatt	agtcataata	cttgggtgtgc	600
ttatttttaa	ttagtgtctaa	atggattaag	tgaagacaac	aatggtcccc	taatgtgatt	660
gatattggtc	attttttacca	gcttctaaat	ctnaactttc	aggcttttga	actggaacat	720
tgnatnacag	tggtccanag	tttcaaccta	ctggaacatt	acagtgtgct	tgattcaaaa	780
tggtattttg	ttaaaaatta	aattttaacc	tggtggaaaa	ataatttgaa	atna	834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 6

tttttttttt	tttttttttt	aagaccctca	tcaatagatg	gagacataca	gaaatagtca	60
aaccacatct	acaaaatgcc	agtatcaggc	ggcggcttcg	aagccaaagt	gatgtttgga	120
tgtaaagtga	aatattagtt	ggcggatgaa	gcagatagtg	aggaaagtgt	agccaataat	180
gacgtgaagt	ccgtggaagc	ctgtggctac	aaaaaatgtt	gagccgtaga	tgccgtcgga	240
aatggtgaag	ggagactcga	agtactctga	ggcttgtagg	agggtaaaat	agagaccag	300
taaaattgta	ataagcagtg	cttgaattat	ttggtttcgg	ttgttttcta	ttagactatg	360
gtgagctcag	gtgattgata	ctcctgatgc	gagtaatacg	gatgtgttta	ggagtgggac	420
ttctagggga	tttagcgggg	tgatgcctgt	tgggggccag	tgccctccta	gttgggggggt	480
aggggctagg	ctggagtgtg	aaaaggctca	gaaaaatcct	gcgaagaaaa	aaacttctga	540
ggtaataaat	aggattatcc	cgatatcgaag	gccttttttg	acagggtgtg	tgtggtggcc	600
ttggtatgtg	ctttctcgtg	ttacatcgcg	ccatcattgg	tatatgtgta	gtgtgttggg	660
ttantangg	ctantatgaa	gaacttttgg	antggaatta	aatcaatngc	ttggccggaa	720
gtcattanga	nggctnaaaa	ggccctgtta	ngggtctggg	ctnggtttta	cccnaccat	780
ggaatncncc	ccccggacna	ntgnatccct	attcttaa			818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7

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cgggccctat	ttcaaagatt	tttaggggaa	ttaattctag	gacgatgggt	atgaaactgt	120
ggtttgctcc	acagatttca	gagcattgac	cgtagtatac	ccccggtcgt	gtagcgggtga	180

aagtggtttg	gtttagacgt	ccgggaattg	catctgtttt	taagccta	gtggggacag	240
ctcatgagt	caagacgtct	tgtgatgtaa	ttattatacn	aatgggggct	tcaatcggga	300
gtactactcg	attgtcaacg	tcaaggagtc	gcaggtcgcc	tggttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtcggt	gttctcctag	gttcaataacc	420
attggtggcc	aattgatttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtaa	480
aggatncctt	ngggatggga	aggcnatnaa	ggactangga	tnaatggcgg	gcangattatt	540
tcaaacngtc	tctanttcct	gaaacgtctg	aaatgtta	aanaattaan	tttngttatt	600
gaatnttnng	gaaaagggct	tacaggacta	gaaaccaa	angaaaanta	atnntaangg	660
cnttatcntn	aaaggtnta	accnctccta	tnatcccacc	caatngnatt	ccccacncnn	720
acnattggat	nccccanttc	canaaaanggc	cnccccccg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttattcnc	ccctngcntt	atcance			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(799)

<223> n = A,T,C or G

<400> 8

catttccggg	tttactttct	aaggaaagcc	gagcgggaagc	tgctaacgtg	ggaatcgggtg	60
cataaggaga	actttctgct	ggcacgcgct	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtggacttg	gcactgaaac	agctgggaca	catccgcgag	180
tacgaacagc	gcctgaaagt	gctggagcgg	gaggtccagc	agtgtagccg	cgtcctgggg	240
tgggtggccg	angcctganc	cgtctgcct	tgtgcccc	angtgggccc	ccacccccctg	300
acctgcctgg	gtccaaacac	tgagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	cctanantaa	ggctcatctg	ggcctcggcc	ccccacctg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtcng	gaccaacctt	ngggagtgtt	480
ctccttacia	ccacannatg	cccggctcct	cccggaacc	antcccance	tgngaaggat	540
caagncctgn	atccactnnt	nctanaaccg	gcncncncg	cngtggaaac	cnccttntgt	600
tccttttct	tnagggttaa	tnncgccttg	gccttnccan	ngtcctncnc	nttttccnnt	660
gttnaaattg	ttangcnccc	nccntcccn	cnnnncn	cccgaaccnn	annttnnann	720
ncctgggggt	nccnnngat	tgaccnnc	nccctntant	tgcnttnggg	nncnntgccc	780
ctttccctct	nggganncg					799

<210> 9

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 9

acgccttgat	cctcccaggc	tgggactggt	tctgggagga	gccgggcatg	ctgtggtttg	60
taangatgac	actcccaaag	gtggtcctga	cagtggccca	gatggacatg	gggctcacct	120
caaggacaag	gccaccaggt	gcggggggccg	aagcccacat	gaccttact	ctatgaccaa	180
aatccctgt	gggggcttct	ccttgaagtc	cgccancagg	gctcagtctt	tggaccang	240
caggtcatgg	ggttgtngnc	caactggggg	ccncaacgca	aaanggcna	gggcctcngn	300
caccataccc	angacgcggc	tacactnctg	gacctcccnc	tccaccactt	tcatgcgctg	360
ttentacccg	cgnatntgtc	ccanctgttt	cngtgccnac	tccancttct	nggacgtgcg	420
ctacatacgc	cgggantcnc	netcccgttt	gtccctatc	cacgtncan	caacaaattt	480
cncctantg	caccnattcc	cacttttnnc	agntttccnc	nncgngcttc	cttntaaaag	540
ggttgancce	cggaaaatnc	cccaaagggg	gggggcccng	tacccaactn	ccccctnata	600
gctgaantcc	ccatnaccnn	gnctcnatgg	ancntccnt	tttaannacn	ttctnaactt	660
gggaanance	ctcgncntn	ccccnttaa	tccnccctg	cnangnnct	ccccnntcc	720
ncccnntng	gcntntnann	cnaaaaaggc	ccnnnancaa	tctcctnn	cctcanttgc	780

ccanccctcg aaatcgccn c

801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
 cagtctatnt ggccagtgtg gcagctttcc ctgtggctgc cgggtgccaca tgccctgtccc 60
 acagtgtggc cgtgggtgaca gcttcagccg ccctcaccgg gttcaccttc tcagccctgc 120
 agatccctgcc ctacacactg gcctccctct accaccggga gaagcagggtg ttccctgcccc 180
 aataccgagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttcctgc 240
 caggccctaa gcctggagct cccttcccta atggacacgt ggggtgctgga ggcagtggcc 300
 tgctcccacc tccaccgcg ctctgcgggg cctctgcctg tgatgtctcc gtacgtgtgg 360
 tgggtgggtga gccaccgan gccagggtgg ttccggggcg gggcatctgc ctggacctcg 420
 ccctccctgga tagtgcttcc tgctgtccca ngtggcccca tccctgttta tgggtccat 480
 tgtccagctc agccagtctg tcaactgccta tatggtgtct gccgcaggcc tgggtctggt 540
 cccatttact ttgctacaca ggtantattt gacaagaacg anttggccaa atactcagcg 600
 ttaaaaaatt ccagcaacat tgggggtgga aggcctgcct cactgggtcc aactccccgc 660
 tccctgttaac cccatggggc tgccggcttg gccgccaat tctgttgctg ccaaantnat 720
 gtggctctct gctgccacct gttgctggct gaagtgcnta cngcncanct nggggggtng 780
 gngttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaataatta gacaccaaca cagaaaagct agcaatggat tcccttctac 60
 tttgttaaat aaataagtta aatattttaa tgccctgtgtc tctgtgatgg caacagaagg 120
 accaacaggc cacatcctga taaaaggtaa gaggggggtg gatcagcaaa aagacagtgc 180
 tgtgggtga ggggacctgg ttcttgtgtg ttgcccctca ggactcttcc cctacaaata 240
 actttcatat gttcaaatec catggaggag tgtttcatcc tagaaactcc catgcaagag 300
 ctacattaaa cgaagctgca ggttaagggg cttanagatg ggaaaccagg tgactgagtt 360
 tattcagctc ccaaaaaccc ttctctaggt gtgtctcaac taggaggcta gctgttaacc 420
 ctgagcctgg gtaatccacc tgcagagtcc ccgcattcca gtgcatggaa cccttctggc 480
 ctccctgtat aagtcagac tgaaccccc ttggaaggnc tccagtcagg cagccctana 540
 aactggggaa aaaagaaaag gacgcccann ccccagctg tgcanctacg cacctcaaca 600
 gcacagggtg gcagcaaaaa aaccacttta ctttggcaca aacaaaaact ngggggggca 660
 accccggcac ccnangggg gttaacagga ancnnggnaa cntggaaccc aattnaggca 720
 ggcccnccac ccnaatntt gctgggaaat ttttccctcc ctaaattntt tc 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapi n
 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gcccccaattc	cagctgccac	accacccacg	gtgactgcat	tagttcggat	gtcatacaaaa	60
agctgattga	agcaaccctc	tactttttgg	tcgtgagcct	tttgcttggg	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtanggtg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggtgggtg	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	ggaagtgtc	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	acctcagcaa	tgaagatgan	gaggangatg	aagaagaacg	tcncgagggc	420
acacttgctc	tcagtcttan	caccatanca	gcccntgaaa	accaananca	aagaccacna	480
cnccggctgc	gatgaagaaa	tnaccccneg	ttgacaaact	tgcatggcac	tggganccac	540
agtggcccn	aaaatcttca	aaaaggatgc	cccatcnatt	gaccccccaa	atgccactg	600
ccaacagggg	ctgccccacn	cncnnaacga	tgancnnatt	gnacaagatc	tncttggtct	660
tnatnaacnt	gaaccctgcn	tngtggctcc	tggtcaggnc	cnnggcctga	cttctnaann	720
aangaactcn	gaagncccca	cnngganann	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(729)

<223> n = A,T,C or G

<400> 13

gagccaggcg	tccctctgcc	tgcccactca	gtggcaacac	ccgggagctg	ttttgtcctt	60
tgtggancct	cagcagtncc	ctctttcaga	actcantgcc	aaganccctg	aacaggagcc	120
accatgcagt	gcttcagctt	cattaagacc	atgatgatcc	tcttcaattt	gctcatcttt	180
ctgtgtgggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tcggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggtactctt	300
ctcatcgag	ccggcggttg	ggtcttagct	ctaggtttcc	tgggctgcta	tggtgctaag	360
actgagagca	agtgtgccct	cgtgacgttc	ttcttcatcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgtgtgggtc	gccttgggtg	acaccacaat	ggctgagcac	ttcctgacgt	480
tgctggtaat	gcctgccatc	aanaaaagat	tatgggttcc	caggaaanact	tcactcaagt	540
gttggaacac	caccatgaaa	gggctcaagt	gctgtggctt	cnnccaacta	tacggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cctttccccc	atttctgttg	caattgacaa	660
acgtcccca	cacagccaat	tgaaaacctg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
attnaaggg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A,T,C or G

<400> 14

tgctcttctt	caaagttggt	cttgttgcca	taacaaccac	cataggtaaa	gcgggcgcag	60
tggtcgctga	aggggttgta	gtaccagcgc	gggatgctct	ccttgagag	tcctgtgtct	120
ggcagggtcca	cgcagtcccc	tttgtcactg	gggaaatgga	tgcgctggag	ctcgtcaaa	180
ccactcggtg	atttttcaca	ggcagcctcg	tccgacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgtc	natgcagcag	ccattgctgc	agcggaaactg	ggtgggctga	300
cangtgccag	agcacactgg	atgggcgctt	tccatgnnan	gggccctgng	ggaaagtccc	360
tganceccan	anctgcctct	caaangcccc	accttgacac	ccccgacagg	ctagaatgga	420
atcttcttcc	cgaaaggtag	ttnttcttgt	tgcccaancc	anccccntaa	acaaactctt	480
gcanatctgc	tccngggggg	tentantacc	ancgtgggaa	aagaacccca	ggcngcgaac	540
caancttggt	tggatncgaa	gcnataatct	ncntttctgc	ttggtggaca	gcaccantna	600

ctgtnnanct	ttagnccntg	gtcctcntgg	ggtgnncttg	aacctaatcn	ccnntcaact	660
gggacaaggt	aantngccnt	cctttnaatt	cccnancntn	ccccctgggt	tgggggttttn	720
cncnctccta	ccccagaaan	nccgtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaaccctn	ccccaccac	gggttcngnt	ggttng			816

<210> 15
 <211> 783
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(783)
 <223> n = A,T,C or G

<400> 15						
ccaaggcctg	ggcaggcata	nacttgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagattgg	cgctactgc	ggggtgacac	ggatgtcagg	gtagagagga	120
aagacccaaa	ccaggtggaa	ctgtggggac	tcaaggaang	cacctacctg	ttccagctga	180
cagtgactag	ctcagaccac	ccagaggaca	cggccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcat	ccaacaangt	gggtcgctgc	cggggctctt	300
tcccacgtcg	gtactatgac	cccacggagc	agatctgcaa	gagtttcgtt	tatggaggct	360
gcttgggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctancc	tgtcnggggtg	420
tgcaaggtgg	gcctttgana	ngcanctctg	gggctcangc	gactttcccc	cagggcccct	480
ccatggaaag	gcgccatcca	ntgttctctg	gcacctgtca	gcccacccag	ttccgctgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccca	ntgcccccaa	600
ccctcccaac	aaagcttccc	tgtnnaaaaa	tacnccantt	ggcttttnac	aaacncccg	660
cncctcctnt	ttcccnntn	aacaaagggc	nctngcnttt	gaactgcccn	aaccnnggaa	720
tctnccnngg	aaaaantncc	ccccctgggt	cctnnaancc	cctccnnaa	anctncccc	780
ccc						783

<210> 16
 <211> 801
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(801)
 <223> n = A,T,C or G

<400> 16						
gccccaatc	cagctgccac	accaccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaaccctc	tacttttttg	tcgtgagcct	tttgcttggt	gcaggtttca	120
ttggctgtgt	tggtgacgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtaggggtg	agtcctcaaa	atccgtatag	ttgggtgaagc	cacagcactt	gagccctttc	240
atggtggtgt	tccacacttg	agtgaagtct	tcctgggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtcag	gaagtgtctca	gccattgttg	tgtacaccaa	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagatgagg	aggaggatga	agaagaacgt	cncgagggca	420
cacttgctct	ccgtcttagc	accatagcag	cccangaaac	caagagcaaa	gaccacaacg	480
ccngctgcga	atgaaagaaa	ntaccacagt	tgacaaactg	catggccact	ggacgacagt	540
tggcccgaan	atcttcagaa	aagggatgcc	ccatcgattg	aacaccana	tgccactgc	600
cnacagggct	gcnccnncn	gaaagaatga	gccattgaag	aaggatcntc	ntggtcttaa	660
tgaactgaaa	ccntgcatgg	tggcccctgt	tcagggtctc	tggcagtga	ttctganaaa	720
aaggaaacngc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgcc	ctgaattggc	780
ggccaaggan	ccctgccccn	g				801

<210> 17
 <211> 740
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(740)
 <223> n = A,T,C or G

<400> 17
 gtgagagcca ggcgtccctc tgccctgccc ctcagtggca acacccggga gctgttttgt 60
 cctttgtgga gcctcagcag ttccctcttt cagaactcac tgccaagagc cctgaacagg 120
 agccaccatg cagtgtctca gcttcattaa gaccatgatg atcctcttca atttgtcat 180
 ctttctgtgt ggtgcagccc tgttggcagt gggcatctgg gtgtcaatcg atggggcatc 240
 ctttctgaag atcttcgggc cactgtcgtc cagtgccatg cagtttgtca acgtgggcta 300
 ctctctcatc gcagccggcg ttgtgggtctt tgctcttggg ttctctgggt gctatgggtg 360
 taagacggag agcaagtgtg ccctcgtgac gttcttcttc atcctctctc tcatcttcat 420
 tgctgaagtt gcagctgctg tggctgcctt ggtgtacacc acaatggctg aaccattcct 480
 gacgttgctg gtantgcctg ccatcaanaa agattatggg ttcccaggaa aaattcactc 540
 aantntggaa caccnccatg aaaagggtc caatttctgn ttggttcccc aactataccg 600
 gaattttgaa agantcnccc tacttccaaa aaaaaanant tgccttttnc cccntttctgt 660
 tgcaatgaaa acntcccaan acngccaatn aaaacctgcc cnnncaaaaa ggntcncaaa 720
 caaaaaaant nnaagggttn 740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(802)
 <223> n = A,T,C or G

<400> 18
 ccgctgggtg cgctgggtcca gngnagccac gaagcacgtc agcatacaca gcctcaatca 60
 caaggtcttc cagctgccgc acattacgca gggcaagagc ctccagcaac actgcatatg 120
 ggatacactt tacttttagca gccagggtga caactgagag gtgtcgaagc ttattcttct 180
 gagcctctgt tagtgaggga agattccggg cttcagctaa gtagtcagcg tatgtccat 240
 aagcaaacac tgtgagcagc cggaaggtag aggcaaagtc actctcagcc agctctctaa 300
 cattgggcat gtccagcagt tctccaaaca cgtagacacc agnggcctcc agcacctgat 360
 ggatggagtgt ggccagcgtt gccccttgg ccgacttggc taggagcaga aattgtctct 420
 ggttctgccc tgtcaccttc acttccgcac tcatcactgc actgagtgtg ggggacttgg 480
 gctcaggatg tccagagacg tggttccgcc ccctcnctta atgacaccgn ccanncaacc 540
 gtcgggtccc gccgantgng ttctgtctnc ctgggtcagg gtctgctggc cnetacttgc 600
 aanccttctc nggcccattg aattcaccnc accggaactn gtangatcca ctntttctat 660
 aaccggnccg caccgcnntt ggaactccac tcttnttnc tttacttgag ggtaaggtc 720
 acccttnnccg ttaccttggg ccaaaccntn cntgtgtcg anatngtnaa tcnggnccna 780
 tnccanccnc atangaagcc ng 802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 19
 cnaagcttcc aggtnacggg ccgcnaance tgaccnagg tancanaang cagnncggg 60
 gagccaccg tcacngngng gngtctttat nggagggggc ggagccacat cnetggacnt 120
 cntgacccca actcccnc nncantgca gtgatgagtg cagaactgaa ggtnacgtgg 180
 caggaaacaa gancaaannc tgctccntc caagtcggcn nagggggcgg ggctggccac 240
 gencatccnt cnagtgtgn aaagccccnn cctgtctact tgtttgaga acngcnnga 300

catgcccagn	gttanataac	nggcngagag	tnantttgcc	tctcccttcc	ggctgcgcan	360
cgngtntgct	tagnggacat	aacctgacta	cttaactgaa	cccnngaate	tnccnccccct	420
ccactaagct	cagaacaaaa	aacttegaca	ccactcantt	gtcacctgnc	tgctcaagta	480
aagtgtaccc	catncccaat	gtntgctnga	ngctctgncc	tgcnttangt	tcggtcctgg	540
gaagacctat	caattnaagc	tatgtttctg	actgcctctt	gctccctgna	acaancnacc	600
cnncnntcca	aggggggggnc	ggcccccaat	ccccccaacc	ntnaattnan	tttancccn	660
ccccnggcc	cggcctttta	cnancntcn	nnacngggna	aaaccnnngc	tttncccaac	720
nnaatccncc	t					731

<210> 20
 <211> 754
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(754)
 <223> n = A,T,C or G

<400> 20						
tttttttttt	tttttttttt	taaaaacccc	ctccattnaa	tgnaaaacttc	cgaaattgtc	60
caacccccctc	ntccaaatnn	ccntttccgg	gnngggggttc	caaacccean	ttanntttgg	120
annttaaatt	aaatnttntt	tgnggggnna	anccnaatgt	nangaaagtt	naaccanta	180
tnancttnaa	tnoctggaaa	ccngtngntt	ccaaaaatnt	ttaaccctta	antccctccg	240
aaatngttna	nggaaaaccc	aantttctct	aaggttggtt	gaaggntnaa	tnaaaaanccc	300
nnccaattgt	ttttngccac	gcctgaatta	attggnntcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggttantnaa	tccccccnnc	cccaattata	ccganttttt	ttngaattgg	420
gancccnccg	gaattaacgg	ggnnnnntccc	tnntgggggg	cnggnncccc	ccccntcggg	480
ggttngggnc	aggnncnaat	tgtttaaggg	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccagngtgag	nnnggggttt	nccccccccc	canggccctc	ctcgnanagt	tgggggtttg	600
ggggcctggg	attttntttc	ccctnttncc	tccccccccc	ccngggganag	aggttngngt	660
tttgntcnnc	ggecccnccn	aaganccttn	ccganttnan	ttaaatecnt	gcctnggcga	720
agtcnttgn	agggntaaan	ggccccctnn	cggg			754

<210> 21
 <211> 755
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(755)
 <223> n = A,T,C or G

<400> 21						
atcancccat	gaccccnac	nngggaccnc	tcancgggnc	nnncnaccnc	cggccnatca	60
nngtnagnnc	actncnnttn	natcacnccc	cnccnactac	gcccncnanc	cnacgcncta	120
nncanattnc	actganngcg	cgangtngan	ngagaaaant	nataccanag	ncaccanacn	180
ccagctgtcc	nanaangcct	nnnatacngg	nnnatccaat	ntgnancctc	cnaagtattn	240
nncnncanac	gattttcctn	anccgattac	ccntncccc	tanccctcc	cccccaacna	300
cgaaggcnct	ggncnnaagg	nngcgnccnc	ccgctagntc	cccnncnaagt	cnncncccta	360
aactcanccn	nattacncgc	ttcntgagta	tcactccccg	aatctcaccc	tactcaactc	420
aaaaanatch	gatacaaaat	aatncaagcc	tgnttatnac	actntgactg	ggtctctatt	480
ttagnngtcc	ntnaancntc	ctaataacttc	cagtctncc	tcnccaattt	ccnaanggct	540
ctttcngaca	gcantttttg	gttcccnntt	gggttcttan	ngaattgcc	ttcntngaac	600
gggctcntct	tttccctcgg	ttanccctgg	ttcncccggc	cagttattat	ttcccntttt	660
aaattcntnc	cntttanttt	tggcnttcna	aacccccggc	cttgaaaacg	gccccctgg	720
aaaaggttgt	tttganaaaa	ttttgtttt	gttcc			755

<210> 22
 <211> 849
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(849)

<223> n = A,T,C or G

<400> 22

tttttttttt	tttttangtg	tngtcgtgca	ggtagaggct	tactacaant	gtgaanacgt	60
acgctnggan	taangcgacc	cganttctag	ganncnccct	aaaatcanac	tgtgaagatn	120
atcctgnnna	cggaanggtc	accggnngat	nntgctaggg	tgncnctcc	cannncnttn	180
cataactcng	nggccctgcc	caccaccttc	ggcgccccng	ngnccgggcc	cggttcattn	240
gnnttaaccn	cactnngcna	ncggtttccn	nccccnnng	accnnggcga	tccgggggtnc	300
tctgtcttcc	cctgnagncn	anaaantggg	ccnccggncce	ctttaccct	nnacaagcca	360
cngccntcta	ncnccngccc	cccctccant	nngggggact	gccnannngct	ccgttncntng	420
nnaccccnnn	gggtncctcg	gttgctcgant	cnaccgnang	ccanggatcc	cnaaggaagg	480
tgcgttnttg	gccctaccc	ttcgtncgg	nncacccttc	ccgacnanga	nccgctccc	540
cnccnccgng	cctcncctcg	caacacccgc	netentcngt	ncggnnncc	ccccaccgc	600
ncctcncnc	ngncgnancn	ctccnccnc	gtctcannca	ccaccccgcc	ccgccaggcc	660
ntcanccaen	ggnggacnng	nagcncnttc	gcncgcgcg	gcgncnccct	cgccnngaa	720
ctncntcngg	ccantnnccg	tcaancenna	cnaaacgcgc	ctgcgcggcc	cgnagcgncc	780
ncctccnccg	gtcctcccgn	cttccnacc	angnttccn	cgaggacacn	nnaccccgcc	840
nncangcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(872)

<223> n = A,T,C or G

<400> 23

gcgcaaaacta	tacttcgctc	gnactcgtgc	gcctcgtcnc	tcttttccctc	cgcaaccatg	60
tctgacnanc	ccgattnggc	ngatatonan	aagntcganc	agtccaaact	gantaacaca	120
cacacnncan	aganaaatcc	nctgccttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgca	atntgtcncc	gtttattntn	ccagcncnc	240
ctnccnacc	tacntcttcn	nagctgtcnn	accctngtn	cgnaccccc	naggtcgga	300
tgggttttn	nntgaccng	cnccctctcc	ccccctccat	nacganccnc	ccgcaccacc	360
nanngcncgc	nceccgnnet	cttcgcnc	ctgtcctntn	ccccctgtngc	ctggcncngn	420
accgcattga	ccctcgcenn	ctnccnngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcncgc	gttccttcn	ncncttcca	ccatcttct	tacnggggtct	540
ccnccgcctc	tcnnncacnc	cctgggaagc	tnccctntgc	cccccttnac	tccccccctt	600
cgncgtgncc	cgnccccacc	ntcatttnca	nacgntcttc	acaannncct	ggntnnctcc	660
cnancngncn	gtcanccnag	ggaagggngg	ggnnccnntg	nttgacgttg	nggngangtc	720
cgaanantcc	tcnccntcan	cncctaccct	cgggcggnct	ctcngttnc	aacttancaa	780
ntctccccc	ngngcncntc	tcagcctcnc	ccncccnct	ctctgcantg	tnctctgctc	840
tnaccnntac	gantnttcgn	cnccctcttt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(815)

<223> n = A,T,C or G

<400> 24

gcatgcaagc	ttgagtattc	tatagngtca	cctaaatanc	ttggcntaat	catgggtcnta	60
nctgncttcc	tgtgtcaaat	gtatacnaan	tanatatgaa	tctnatntga	caaganngta	120
tcntncatta	gtaacaantg	tnntgtccat	cctgtcngan	canattccca	tnnattncgn	180
cgcattcnch	gcncantatn	taatngggaa	ntcnntnnn	ncaccnnncat	ctatcntncc	240
gcncctgac	tgganagat	ggatnanttc	tnntntgacc	nacatgttca	tcttggtatn	300
aanancccc	cgcngnccac	cggttngnng	cnagccnntc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	aganncatca	aacntgggaa	acccgcnncc	angtnnaagt	ngnnncanan	420
gatccccgtc	aggnttnacc	atcccttcnc	agcgccccct	ttngtgcctt	anagngnagc	480
gtgtccnanc	cnetcaacat	ganacgcgcc	agnccanccg	caattnggca	caatgtcgnc	540
gaacccccct	gggggantna	tncaaanccc	caggattgtc	cncncangaa	atcccnanc	600
ccnccctac	ccncttttg	gacngtgacc	aantcccgga	gtncacgtcc	ggcngnctc	660
ccccaccggt	nnccttggg	gggtgaanct	cngnntcanc	cngncgaggn	ntcgnaagga	720
accggnccctn	gngcgaanng	ancnntcnga	agngccnnt	cgtataaacc	cccctcncca	780
nccnacngnt	agntcccccc	cngggtncgg	aangg			815

<210> 25
 <211> 775
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(775)
 <223> n = A,T,C or G

<400> 25						
ccgagatgtc	tcgctccgtg	gccttagctg	tgtctgcgct	actctctctt	tctggcctgg	60
aggctatcca	gcgtactcca	aagattcagg	tttactcacg	tcacccagca	gagaatggaa	120
agtcaaattt	cctgaattgc	tatgtgtctg	ggtttcatcc	atccgacatt	gaanttgact	180
tactgaagaa	tgganagaga	attgaaaaag	tggagcattc	agacttgtct	ttcagcaagg	240
actggtcttt	ctatctcntg	tactacactg	aattcacccc	caactgaaaa	gatgagtatg	300
cctgccgtgt	gaaccatgtg	actttgtcac	agcccaagat	agttaagtgg	gatcgagaca	360
tgtaagcagn	cnnccatggaa	gtttgaagat	gccgcatttg	gattggatga	attccaaatt	420
ctgcttgctt	gcnttttaat	antgatatgc	ntatacaccc	taccctttat	gncccccatt	480
tgtaggggtt	acatnantgt	tcnctnngga	catgatcttc	ctttataant	ccnccnttcg	540
aattgcccgt	cncnngttn	ngaattgttc	cnaaaccacg	gttgggtccc	ccaggtcncc	600
tcttacggaa	gggcctgggc	cncctttncaa	ggttggggga	accnaaaatt	tcncttntgc	660
ccncccncca	cnntcttng	nncncanttt	ggaacccctc	cnattcccct	tggcctcnna	720
nccttnncta	anaaaacttn	aaancgtngc	naaanntttt	acttcccccc	ttacc	775

<210> 26
 <211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(820)
 <223> n = A,T,C or G

<400> 26						
anattantac	agtgtaatct	tttcccagag	gtgtgtanag	ggaacggggc	ctagaggcat	60
cccanagata	ncttatanca	acagtgtctt	gaccaagagc	tgctgggcac	atttccctgca	120
gaaaagggtg	cgggtcccat	cactcctcct	ctcccatagc	catcccagag	gggtgagtag	180
ccatcangcc	ttcgggtggga	gggagtcang	gaaacaacan	accacagagc	anacagacca	240
ntgatgacca	tgggcgggag	cgagcctctt	ccctgnaccg	gggtggcana	nganagccta	300
nctgaggggt	cacactataa	acgttaacga	ccnagatnan	cacctgcttc	aagtgcaccc	360
ttcctacctg	acnaccagn	accnnaact	gcngcctggg	gacagcnetg	ggancagcta	420
acnnagcact	cacctgcccc	cccatggccg	tnccntccc	tggtcctgnc	aagggaagct	480
ccctgttgga	attncgggga	naccaaggga	nccccctcct	ccanctgtga	aggaaaaann	540
gatggaattt	tncccttccg	gccnntcccc	tcttcttta	cacgccccct	nntactcntc	600
tccctctntt	ntcctgncnc	acttttnacc	ccnnnatttc	ccttnattga	tccgannctn	660

ganattccac tnnccctnc cntcnatcng naanacnaaa nactntctna ccnnggggat 720
 gggnnccctcg ntcacccctct ctttttctnct accnccnntt ctttgccctct ccttngatca
 780tccaaccntc gntggccntn cccccccnnn tccttttccc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tcctcagggg cctctgactg ctctggggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcgggtg attcagccct gcccaacctg attctgatga 120
 ctgaggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggagggggcgc 180
 ctgctgagca cttccgcccc tcaccctgcc cagccccctgc catgagctct gggctgggtc 240
 tccgctcca gggttctgct cttccangca ngccancaag tggcgtctgg ccacactggc 300
 ttcttctgc cccntccctg gctctganc tctgtcttcc tgtcctgtgc angcnccttg 360
 gatctcagtt tcctcncctc anngaactct gtttctgann tcttcantta actntgantt 420
 tatnaccnan tggntctgnc tgtcnnactt taatgggcn gaccggctaa tccctccctc 480
 nctcccttcc anttcnnnna accngcttnc cntctctcc ccntancccg ccnggggaanc 540
 ctcctttgcc ctnaccangg gccnnnaccg cccntnnctn gggggggcnng gtnnctnenc 600
 ctgntnnccc cncctcncnt tncctcgctc cncnncgc nngcannttc nngtcccn 660
 tnnctctten ngntcgnaa ngntcncntn tnnnnngn nngntnntn tccctctcnc 720
 cnnntgnang tnnntnnnc ncnngncccc nnnnnnnnn nggnntnnn tctnncngc 780
 cccnncccc ngnattaagg cctccnntct ccggccnc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 aggaagggcg gagggatatt gtangggatt gagggatagg agnataangg gggaggtgtg 60
 tcccaacatg anggtgnngt tctcttttga angaggggtg ngtttttann ccnggtgggt 120
 gattnaaccc cattgtatgg agnnaaaggn ttttagggat ttttcggctc ttatcagtat 180
 ntanattcct gtnaatcgga aaatnatntt tcnnccggaa aatnttgctc ccatccgnaa 240
 attnctccc ggtagtgcatt nttngggggn cngccangtt tcccaggctg ctanaatcgt 300
 actaaagntt naagtgggan tncaaatgaa aacctnnac agagnatccn taccggactg 360
 tnnnttncct tcgcccctng actctgcng agcccaatac ccnngngnat gtcncccn 420
 nnnccgnc tgaannnnnc tcgnggctnn gancatcang gggtttcgca tcaaaagcnn 480
 cgtttcncat naaggcactt tngcctcacc caaccnctng ccctcnncca tttngccgctc 540
 nggttncct acgctnntng cncctnnntn ganattttnc ccgctnggg naancctcct 600
 gnaatgggta gggnccttntc ttttnaccnn gnggtntact aatcnnctnc acgctnctt 660
 tctcnacccc ccccttttt caatcccanc ggcnaatggg gtctccccnn cgangggggg 720
 nnnccannc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtccag tgtggtggaa ttccattgtg ttggggncnc ttctatgant antnttagat 60
 cgctcanacc tcacancctc ccnancngc ctataangaa nannaataga nctgtncnnt 120
 atntntacnc tcatanncct cnnnacccac tccctcttaa cccntactgt gcctatngcn 180
 tnnctantct ntggcgctn cnanccaccn gtgggcecnac cncnngnatt ctcnatctcc 240
 tcnccatntn gcctananta ngtncatacc ctatacctac nccaatgcta nnnctaancn 300
 tccatnantt annntaacta ccactgacnt ngactttcnc atnanctcct aatttgaatc 360
 tactctgact cccacngcct annnattagc ancntcccc nacnatntct caaccaaadc 420
 ntcaacaacc tatctanctg ttcnccaacc nttncctcgc atccccnnac aacccccctc 480
 ccaaataccc nccacctgac ncctaaccn caccatcccc gcaagccnan ggnacatttan 540
 ccactggaaat cacnatngga naaaaaaaac ccnaactctc tancncnnat ctccctaana 600
 aatnctcctn naatttactn ncantnccat caancccaen tgaaacnnaa cccctgtttt 660
 tanatccctt ctttcgaaaa ccnacccttt annncccaac ctttngggcc ccccnctnc 720
 ccnaatgaag gncnccaat cnangaaag nccntgaaaa ancnaggcna anannntccg 780
 canatcctat cccctanttn ggggncctt nccngggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggcgcgctg ctctggcaca tgcctcctga atggcatcaa aagtgatgga ctgcccattg 60
 ctagagaaga ctttctctcc tactgtcatt atggagccct gcagactgag ggctcccctt 120
 gtctgcagga tttgatgtct gaagtcgtgg agtgtggctt ggagctctc atctacatna 180
 gctggaagcc ctggaggggc tctctcgcca gcctccccct tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattattc ccagnangac atgggtgtttc tccaagcgga 300
 cccatggggc ctgnaaggcc aggtctcct ttgacaccat ctctcccgtc ctgcttgga 360
 ggcggtggga tccactantt ctanaacggc cgccaccncg gtgggagctc cagcttttgt 420
 tccnttaat gaaggttaat tgcncgcttg gcgtaatcat nggtcanaac tntttcctgt 480
 gtgaaattgt ttntcccctc ncnattccnc ncnacatacn aaccgggaan cataaagtgt 540
 taaagcctgg gggtngcctn nngaattnaac tnaactcaat taattgcgtt ggctcatggc 600
 ccgctttccn ttcnngaaaa ctgtcntccc ctgcnttntt gaatcgggca ccccccnggg 660
 aaaagcggtt tgcnttttng ggggntcctt ccncttccc cctcnctaan cctnncgct 720
 cggtcgttnc nggtngcggg gaanggggnat nnnctccnc naagggggng agnnngntat 780
 ccccaaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31
 tttttttttt tttttttggc gatgctactg tttaattgca ggaggtgggg gtgtgtgtac 60
 catgtaccag ggctattaga agcaagaagg aaggaggagg ggcagagcgc cctgctgagc 120
 aacaaaggac tccgtgacgc ttctctgtct gtctcttggc gcaggcacat ggggaggcct 180
 cccgcagggt gggggccacc agtccagggg tgggagcact acanggggtg ggagtgggtg 240
 gtggctggtg cnaatggcct gncacanatc cctacgattc ttgacacctg gatttcacca 300

ggggaccttc	tggttctcca	nggnaacttc	ntnnatctcn	aaagaacaca	actgtttctt	360
cngcanttct	ggctgttcat	ggaaagcaca	ggtgtccnat	ttnggctggg	acttggtaca	420
tatggttccg	gcccacctct	cccntcnaaa	aagtaattca	ccccccccc	ccntctnttg	480
cctgggccc	taantaccca	caccggaact	canttanta	ttcatcttng	gntgggcttg	540
ntnatcnccn	cctgaangcg	ccaagttgaa	aggccacgcc	gtncnccnctc	cccatagnan	600
nttttncnt	canctaagc	ccccccnggc	aacnatccaa	tcccccccn	tgggggcccc	660
agcccanggc	ccccgntcg	ggnnnccngn	cnegnantcc	ccaggntctc	ccantcngnc	720
ccnnngcncc	cccgacgca	gaacanaagg	ntngagcenc	cgcannnnnn	nggtnnncac	780
ctcgcccccc	ccnnccgng					799

<210> 32
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 32						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tttttccnag	ggcagggtta	ttgacaacct	cncgggacac	aancaggctg	gggacaggac	120
ggcaacaggc	tcgggcggcg	gcggcgggcg	ccctacctgc	ggtaccaa	ntgcagcctc	180
cgctcccgct	tgaatnttct	ctgcagctgc	aggatgcct	aaaacagggc	ctcgccntn	240
ggtgggcacc	ctgggatttn	aatttccacg	ggcacaatgc	ggtcgcancc	cctcaccacc	300
nattaggaat	agtggnttta	cccnccnccg	ttggcncact	ccccntggaa	accacttntc	360
gcggctcccg	catctgggtc	ttaaaccctgc	aaacnctggg	gccctctttt	tggttantnt	420
nccngccaca	atcatnactc	agactggcnc	gggctggccc	caaaaaan	ccccaaaacc	480
ggncatgtc	ttnnccgggt	tgctgcnatn	tncatcacct	cccgggcnca	ncaggncaac	540
ccaaaagtgc	ttngggcccn	caaaaaanct	ccggggggnc	ccagtttcaa	caaagtcatc	600
ccccttgccc	cccaaattct	ccccccgntt	ncgtgggttg	ggaacccacg	cctctnnctt	660
tggnnggcaa	gntggntccc	ccttcggggc	cccgggtggc	ccnnctctaa	ngaaaacncc	720
ntcctnnnca	ccatcccccc	nngnnacgnc	tancaangna	tccctttttt	tanaaacggg	780
ccccccnccg						789

<210> 33
 <211> 793
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(793)
 <223> n = A,T,C or G

<400> 33						
gacagaacat	ggtggatggt	ggagcacctt	tctatacgac	ttacaggaca	gcagatgggg	60
aattcatggc	tggtggagca	atanaacccc	agttctacga	gctgctgac	aaaggacttg	120
gactaaagtc	tgatgaactt	cccaatcaga	tgagcatgga	tgattggcca	gaaatgaana	180
agaagtttgc	agatgtattt	gcaaagaaga	cgaaggcaga	gtggtgtcaa	atctttgacg	240
gcacagatgc	ctgtgtgact	ccggttctga	aggagcagga	ggttggtcat	catgatcaca	300
acaangaacg	gggctcgttt	atcaccantg	aggagcagga	cgtgagcccc	cgccctgcac	360
ctctgctggt	aaacacccca	gccatccctt	ctttcaaaag	ggatccacta	cttctagagc	420
ggncgccacc	gcggtggagc	tccagctttt	gttcccttta	gtgagggtta	attgcgcgct	480
tggcgtaatc	atgggtcatan	ctgtttcctg	tgtgaaattg	ttatccgctc	acaattccac	540
acaacatacg	anccggaagc	atnaaatttt	aaagcctggg	ggtngcctaa	tgantgaact	600
nactcacatt	aattggcttt	gcgctcactg	cccgttttcc	agtccggaaa	acctgtcctt	660
gccagctgcc	nttaatgaat	cnggccaccc	cccggggaaa	aggcngtttg	cttnttgggg	720
cgcncttccc	gctttctcgc	ttcctgaant	ccttcccccc	ggtctttcgg	cttgcggcna	780
acgggtatona	cct					793

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(756)
 <223> n = A,T,C or G

<400> 34

gccgcgaccg	gcatgtacga	gcaactcaag	ggcgagtggga	accgtaaaaag	ccccaatctt	60
ancaagtgcg	gggaanagct	gggtcgactc	aagctagtgc	ttctggagct	caacttcttg	120
ccaaccacag	ggaccaagct	gaccaaacag	cagctaattc	tggcccgtga	catactggag	180
atcgggggcc	aatggagcat	cctacgcaan	gacatcccct	ccttcgagcg	ctacatggcc	240
cagctcaaat	gctactactt	tgattacaan	gagcagctcc	ccgagtcagc	ctatatgcac	300
cagctcttgg	gcctcaacct	cctcttctctg	ctgtcccaga	accgggtggc	tgantnccac	360
acgganttgg	ancgggtgcc	tgcccaanga	catacanacc	aatgtctaca	tcnaccacca	420
gtgtcctgga	gcaatactga	tgganggcag	ctaccncaaa	gtnttcctgg	ccnagggtaa	480
catccccccg	cgagagctac	accttcttca	ttgacatcct	gctcgacact	atcagggatg	540
aaaatcgcn	ggttgctcca	gaaaggctnc	aanaanatcc	tttctnctga	aggcccccg	600
atncnctagt	nctagaatcg	gcccggccatc	gcggtgganc	ctccaacctt	tcgttnccct	660
ttactgaggg	tttattggcg	cccttggcgt	tatcatggtc	acnccngttn	cctgtgttga	720
aattnttaac	cccccaaat	tccacgcena	cattn			756

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 35

gggatctct	anatchnacct	gnatgcatgg	ttgtcggtgt	ggtecgctgtc	gatgaanatg	60
aacaggatct	tgcccttgaa	gctctcggt	gctgtnttta	agttgctcag	tctgccgtca	120
tagtcagaca	cnctcttggg	caaaaaacan	caggatntga	gtcttgattt	cacctccaat	180
aatcttcngg	gctgtctgct	cggtgaactc	gatgacnang	ggcagctggg	tgtgtntgat	240
aaantccanc	angttctcct	tggtgacctc	cccttcaaag	ttgttccggc	cttcatcaaa	300
cttctnnaan	angannancc	canctttgtc	gagctggnat	ttgganaaca	cgtcactgtt	360
ggaaactgat	cccaaagtgt	atgtcatcca	tcgcctctgc	tgccctgcaa	aaacttgctt	420
ggcncaaate	cgactcccn	tccttgaaag	aagccnatca	cacccccctc	cctggactcc	480
nncaangact	ctnccgctnc	cccntccnng	cagggttggg	ggcannccgg	gcccgtgcgc	540
ttcttcagcc	agttcacnat	nttcatcagc	ccctctgcca	gctgttntat	tccttggggg	600
ggaanccgtc	tctcccttcc	tgaannaact	ttgaccgtng	gaatagccgc	gcntcnccnt	660
acntnctggg	ccgggttcaa	antccctccn	ttgncnntcn	cctcgggcca	ttctggattt	720
nccnaacttt	ttccttcccc	cnccccncgg	ngtttggntt	tttcatnggg	ccccaactct	780
gctnttggcc	antcccttgg	gggcntntan	cnccccctnt	ggtcccntng	ggcc	834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(814)
 <223> n = A,T,C or G

<400> 36

cgngcgttt	ccngccgcgc	cccgtttcca	tgacnaaggc	tcccttcang	ttaaatacnn	60
cctagnaAAC	attaatgggt	tgctctacta	atacatcata	cnaaccagta	agcctgcccc	120
naacgccaac	tcaggccatt	cctaccaaag	gaagaaaggc	tggtctctcc	accccctgta	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgaat	ctnaagtctt	gtgttttact	240
aatggaaaaa	aaaaataaac	aanaggtttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaacanc	ccagcgctca	cttctgcttg	ganaaatatt	ctttgctctt	ttggacatca	360
ggcttgatgg	tatcactgcc	acntttccac	ccagctgggc	ncccttcccc	catntttgtc	420
antganctgg	aaggcctgaa	ncttagtctc	caaaagtctc	ngcccacaag	accggccacc	480
aggggangtc	ntttncagtg	gatctgccaa	anantaccn	tatcatcnnt	gaataaaaag	540
gcccctgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatgggtgcc	600
cttccgggtct	gatccnaaag	gaatgttcc	gggtcccant	ccctcctttg	ttnccttacgt	660
tgtnttgac	cctgtctngn	atnaccnaan	tganatcccc	ngaagcacc	tnccctggc	720
atttganttt	cntaaattct	ctgccctacn	netgaaagca	cnattccctn	ggcnccnaan	780
gngaaactca	agaaggctcn	ngaaaaacca	cncn			814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(760)
 <223> n = A,T,C or G

<400> 37						
gcattgctgct	cttccctcaaa	gttggttcttg	ttgccataac	aaccaccata	ggtaaagcgg	60
gcgcagtgtt	cgctgaagg	gttgtagtac	cagcgcgga	tgctctcctt	gcagagtcct	120
gtgtctggca	gggtccacgca	atgccctttg	tcaactggga	aatggatgcg	ctggagctcg	180
tcnaanccac	tcgtgtattt	ttcacangca	gcctcctccg	aagcntccgg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagccca	ttgctgcagc	ggaactgggt	300
gggtgacag	gtgccagaac	acactggatn	ggcctttcca	tggaagggcc	tgggggaaat	360
cncctnancc	caaactgcct	ctcaaaggcc	accttgca	ccccgacag	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttcttgt	tgcccaagca	ncctccanca	aaccaaaanc	480
ttgcaaaatc	tgctccgtgg	gggtcatnnn	taccanggtt	ggggaaanaa	accggcngn	540
ganccnccct	gtttgaatgc	naaggnaata	atcctcctgt	cttgcttggg	tggaanagca	600
caattgaact	gttaacnttg	ggcggnttc	cnctnggggt	gtctgaaact	aatcacgcgc	660
actggaaaaa	ggtangtgcc	ttccttgaat	tcccaaantt	cccctngntt	tgggtntttt	720
ctcctctncc	ctaaaaatcg	tnttcccccc	cctangggc			760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(724)
 <223> n = A,T,C or G

<400> 38						
tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaaa	60
cttccnaaat	tgtccaaccc	cctcncccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaattaatt	ttgganttta	aattaaatnt	tnattngggg	aanaanccaa	atgtnaagaa	180
aatttaaccc	attatnaact	taaatnccn	gaaacccntg	gnttccaaaa	atttttaacc	240
cttaaatccc	tccgaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaagggt	300
ngatttaaac	ccccttnant	tnttttnacc	cnnngctnaa	ntatttngnt	tccgggtgtt	360
tcctnttaan	cntnggtaac	tcccgnata	gaannnccct	aanccaatta	aaccgaattt	420
tttttgaatt	ggaaattccn	ngggaattna	ccgggggttt	tcccttttgg	gggccatncc	480
ccnctttcg	gggtttgggn	ntaggttgaa	tttttnnang	ncccaaaaaa	ncccccaana	540
aaaaaactcc	caagnnttaa	ttngaantnc	ccccctccca	ggccttttgg	gaaaggnggg	600
ttnttggggg	ccnggggantt	onttcccccn	ttncncccc	cccccnnggt	aaanggttat	660

ngnnttttggg ttttgggccc cttnanggac cttccggatn gaaattaaat ccccggnncg 720
gccg 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(751)
<223> n = A,T,C or G

<400> 39
tttttttttt tttttctttg ctcacattta atttttattt tgattttttt taatgctgca 60
caacacaata tttatttcat ttgtttcttt tatttcattt tatttgtttg ctgctgctgt 120
tttattttatt tttactgaaa gtgagaggga acttttgggg ccttttttcc tttttctgta 180
ggccgcctta agctttctaa atttgggaaca tctaagcaag ctgaanggaa aaggggggtt 240
cgcaaaatca ctggggggaa nggaaagggt gctttgttaa tcatgcccta tgggtgggtga 300
ttaactgctt gtacaattac ntttactttt taattaattg tgctnaangc ttttaattana 360
cttgggggtt ccttccccc accaacccon ctgacaaaaa gtgccngccc tcaaantatg 420
tcccggcnnt cnttgaaaca cacngcngaa ngttctcatt ntcccccnc caggtnaaaa 480
tgaagggtta ccatntttta cncacctcc acntggcnnn gcctgaatcc tcnaaaancn 540
ccctcaancn aattnctnng ccccggtcnc gcntnngtcc cccccgggt cggggaantn 600
cacccccnga annccntnnc naacnaaatt ccgaaaatat tcccnntcnc tcaattcccc 660
cnnagactnt cctcnnncn cncaattttc ttttnntcac gaacncgnnc cnnaaatgn 720
nnnnccctc cnetngtccn naatcnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(753)
<223> n = A,T,C or G

<400> 40
gtggtatttt ctgtaagatc aggtgttccct ccctcgtagg tttagaggaa acaccctcat 60
agatgaaaac ccccccgaga cagcagcaact gcaactgcca agcagccggg gtaggagggg 120
cgccctatgc acagctgggc ccttgagaca gcagggttc gatgtcaggc tcgatgtcaa 180
tggtctggaa gcggcggtg tacctgcgta ggggcacacc gtcagggcc accaggaact 240
tctcaaagtt ccaggcaacn tcgttgcgac acaccggaga ccagggtgatn agcttgggggt 300
cggtcataan cgcggtggcg tcgtcgctgg gagctggcag ggcctcccgc aggaaggcna 360
ataaaagggt cgcccccgca ccgttcanct cgcacttctc naanaccatg angttgggct 420
cnaaccacc accannccgg acttccctga nggaattccc aaatctcttc gntcttgggc 480
ttctnctgat gccctanctg gttgcccnng atgccaanca nccccaance ccgggtcct 540
aaanaccen cctcctcntt tcatctgggt tntntcccc ggacntgggt tcctctcaag 600
ggancccata tctcnaccan tactcacnt nccccccnt gnnaccanc cttctanngn 660
ttccncccg ncctctggcc cntcaaan gttncacna cctgggtctg cttcccccc 720
tncctatct gnaccncn tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapi n

<400> 41
actatatcca tcacaacaga catgttcat cccatagact tcttgacata gtttcaaag 60
agtgaaccca tccttgattt atatacatat atgttctcag tattttggga gcctttccac 120
ttctttaaac cttgttcatt atgaacactg aaaataggaa tttgtgaaga gttaaaaagt 180

tatagcttgt	ttacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tggtaaactg	tgatttttaa	aaaatatcat	ttgagaatat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatat	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

<400> 42						
acttactgaa	tttagttctg	tgctcttcct	tatttagtgt	tgtatcataa	atactttgat	60
gtttcaaaca	ttctaaataa	ataattttca	gtggcttc	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 43						
acatctttgt	tacagtctaa	gatgtgttct	taaatcacca	ttccttcctg	gtcctcaccc	60
tccagggtgg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgcct	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat	ctacaaaatg	accacaggat	240
tgatacaga	acgagagtta	tcctggataa	ctcagagctg	agtacctgcc	cgggggcccgc	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(852)
 <223> n = A,T,C or G

<400> 44						
acataaatat	cagagaaaag	tagtctttga	aatattttacg	tccaggagtt	ctttgtttct	60
gattatttgg	tgtgtgtttt	ggtttgtgtc	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tcgggcattc	ttcccaaatt	tatataccag	tcttcgtcca	tccacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcgggt	gagcttttca	taggtcatgc	240
tgctgttgtt	cttcttttta	ccccatagct	gagccactgc	ctctgatttc	aagaacctga	300
agacgccctc	agatcggctc	tcccatttta	ttaatcctgg	gttcttgtct	gggttcaaga	360
ggatgtcgcg	gatgaattcc	cataagttag	tccctctcgg	gttgtgcttt	ttggtgtggc	420
acttggcagg	ggggtcctgc	tcctttttca	tatcagggtga	ctctgcaaca	ggaagggtgac	480
tggtggttgt	catggagatc	tgagcccggc	agaaagtttt	gctgtccaac	aaatctactg	540
tgctaccata	gttggtgtca	tataaatagt	tctngtcttt	ccagggtgtc	atgatggaag	600
gctcagtttg	ttcagtcttg	acaatgacat	tgtgtgtgga	ctggaacagg	tcactactgc	660
actggccgtt	ccacttcaga	tgctgcaagt	tgctgtagag	gagntgcccc	gccgtccctg	720
ccgcccgggt	gaactcctgc	aaactcatgc	tgcaaagggtg	ctcgccgttg	atgtcgaaact	780
cntggaaagg	gatacaattg	gcatccagct	ggttggtgtc	caggaggtga	tggagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

<400> 45						
acaacagacc	cttgctcgct	aacgacctca	tgctcatcaa	gttggacgaa	tccgtgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaccgcg	gggaactctt	120
gcctcgtttc	tggtctgggt	ctgctggcga	acggcagaat	gcctaccgtg	ctgcagtgcg	180

tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgacccg ctgt 234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 46
 acttttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atggtgtgta 60
 atttgatagc aatatttttg agattacaga gttttagtaa ttaccaatta cacagttaaa 120
 aagaagataa tatattccaa gcanatacaa aatatctaata gaaagatcaa ggcaggaaaa 180
 tgantataac taattgacaa tggaaaatca attttaaatgt gaattgcaca ttatccttta 240
 aaagctttca aaanaanaaa ttattgcagt ctanttaatt caaacagtgt taaatggtat 300
 caggataaan aactgaaggg canaaaagaat taattttcac ttcatgtaac ncacccanatt 360
 ttacaatggc ttaaatgcan ggaaaaagca gtggaagtag ggaagtantc aaggtctttc 420
 tggctctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
 ggctcctgtt atatccacaa tcccagcagc aagatgaagg gatgaaaaag gacacatgct 540
 gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<400> 47
 acaagggggc ataatgaagg agtgggggana gatttttaaag aaggaaaaaa aacgaggccc 60
 tgaacagaat ttctctgnac aacggggcctt caaaataatt ttcttgggga ggttcaagac 120
 gcttcaactgc ttgaaactta aatggatgtg ggacanaatt ttctgtaatg accctgaggg 180
 cattacagac gggactctgg gaggaaggat aaacagaaaag gggacaaaagg ctaatcccaa 240
 aacatcaaag aaaggaagggt ggcgtcatatc ctcccagcct acacagttct ccagggtctt 300
 cctcatcctt ggaggacgac agtggaggaa caactgacca tgtccccagg ctcctgtgtg 360
 ctggctcctg gtcttcagcc ccagctctg gaagcccacc ctctgctgat cctgcgtggc 420
 ccacactcct tgaacacaca tcccaggtt atattcctgg acatggctga acctcctatt 480
 cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccactcac cctccaaacc 540
 acggcatggg aagcctttct gacttgcttg attactccag catcttgga caatccctga 600
 ttccccactc cttagaggca agataggggtg gttaagagta gggctggacc acttgagacc 660
 aggtgtgtgg cttcaaattt tggctcattt acgagctatg ggaccttggg caagtnatct 720
 tcacttctat gggcntcatt ttgttctacc tgcaaaatgg ggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctottata tccataaaat gatataattt 60
 ttgcaantat anaaatgtgt cataaattat aatgttcctt aattacagct caacgcaact 120

tggt

124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 49

gccgatgcta ctattttatt gcaggaggtg ggggtgtttt tattattctc tcaacagctt 60
 tgtggctaca ggtgggtgtct gactgcatna aaaanttttt tacgggtgat tgcaaaaatt 120
 ttagggcacc catatcccaa gcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50

acattaaatt aataaaagga ctggtggggt tctgctaaaa cacatggctt gatattattgc 60
 atggttttgag gttaggagga gttaggcata tgttttggga gaggggt 107

<210> 51
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 51

gtcttaggaa gtctagggga cacacgactc tggggtcacg gggccgacac acttgacagg 60
 cgggaaggaa aggagagaa gtgacaccgt cagggggaaa tgacagaaag gaaaatcaag 120
 gccttgcaag gtcagaaagg ggactcaggg ctccaccac agccctgccc cacttggcc 180
 cctccctttt gggaccagca atgt 204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(491)
 <223> n = A,T,C or G

<400> 52

acaaagataa catttatctt ataacaaaaa tttgatagtt ttaaagggtta gtatttgtta 60
 gggatatttc caaaagacta aagagataac tcaggtaaaa agttagaaat gtataaaaca 120
 ccatcagaca ggttttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa 180
 aaaacttctt gtatcaattt cttttgttca aaatgactga cttaantatt tttaaatatt 240
 tcanaaacac ttcctcaaaa attttcaana tggtagcttt canatgtgcc ctcagtccca 300
 atgttgctca gataaataaa tctcgtgaga acttaccacc caccacaagc tttctggggc 360
 atgcaacagt gtcttttctt tnttttttct tttttttttt ttacaggcac agaaactcat 420
 caattttatt tggataacaa aggggtctcca aattatattg aaaaataaat ccaagttaat 480
 atcactcttg t 491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggctaa ttaccataag atgctatttta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttctttttg ctttgataac 120
 actacagaac ccttaaggac actgaaaatt agtaagtaaa gttcagaaac attagctgct 180
 caatcaaate tctacataac actatagtaa ttaaaacgtt aaaaaaaagt gttgaaatct 240
 gcactagtat anaccgctcc tgtcaggata anactgcttt ggaacagaaa gggaaaaanc 300
 agctttgant ttctttgtgc tgatangagg aaaggctgaa ttacctgtgt gcctctccct 360
 aatgattggc aggtcnggta aatnccaaaa catattccaa ctcaacactt cttttccncg 420
 tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc ncggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgtga actccataca gaaaacgggtg ccatccctga acacggctgg 60
 ccactgggta tactgctgac aaccgcaaca acaaaaacac aaatccttgg cactggctag 120
 tctatgtcct ctcaagtgcc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggcttg tctccgggtg gttcccggcg cccccacgg tccccagaac ggacactttc 60
 gccctccagt ggatactga gccaaagtgg t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggcggatgtg cgttggttat atacaaatat gtcattttat gtaagggact tgagtatact 60
 tggatttttg gtatctgtgg gttgggggga cgggccagga accaataccc catggatacc 120
 aagggacaac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcngtggcgc 60
 gactgggagc tgagcccttc cctttgcgcc tgccctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(198)
 <223> n = A,T,C or G

<400> 58
 acagggatat aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgattacata cttttatcct ttaaaaaaga tgtaaatcct aattttttatg ccatctatta 120
 atttaccaat gagttacctt gtaaatgaga agtcattgata gcactgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg ggttgtagg aagtcttatac agcaaaaactg gtgatggcta ctgaaaagat 60
 ccattgaaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaactc actcaatttt 120
 cacctgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aaatgacaaa gccagggcct acaggtgggt tccagacttt ccagaccag 240
 cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 tttcgtcttt attggacttc tttgaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ctttctacat tcctgacggc tcttccacca acatctgggt ctacttcggc 60
 gtctgtgggt ctttctctt cctcctcctc cagctgggtg tgctcatcga ctttgccgac 120
 tcttggaacc agcgggtggc gggcaaggcc gaggagtgcg attcccgtgc ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 accccacttt tcttctgtg agcagtctgg acttctcact gctacatgat gaggggtgagt 60
 ggttggtgct cttcaacagt atcctccctt ttccggatct gctgagccgg acagcagtgc 120
 tggactgcac agccccggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 cgctcgagcc ctatagttag tcgtattaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcatt tcagcaccct ttgctcttca aaactgacca tcttttatat ttaatgcttc 60
ctgtatgaat aaaaatggtt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc tgaatccacc aataaataaa ggttctgcag 60
aatcagtga tccaggattg gtccttggat ctggggg 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 65
acaacaanaa ntcccttctt taggccactg atggaaacct ggaacccctt tttgatggca 60
gcatggcgct ctaggccttg acacagcggc tgggggtttg gctntccaa accgcacacc 120
ccaaccctgg tctaccaca nttctggcta tgggctgtct ctgccactga acatcagggt 180
tcggtcataa natgaaatcc caanggggac agaggtcagt agaggaagct caatgagaaa 240
ggtgctgttt gtcagccag aaaacagctg cctggcattc gccgctgaac tatgaacccg 300
tgggggtgaa ctaccccccag gaggaatcat gcctgggcca tgcaanggtg ccaacaggag 360
gggcgggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
acgcctttcc ctcagaattc agggaagaga ctgtcgctg ccttctctcg ttgttgctg 60
agaacccgtg tgccccttcc caccatatcc accctcgctc catctttgaa ctcaaacacg 120
aggaactaac tgcaccctgg tctctctccc agtccccagt tcaccctcca tccctcacct 180
tcttccactc taagggatat caacactgcc cagcacaggg gccctgaatt tatgtgggtt 240
ttatatattt titaataaga tgcactttat gtcatttttt aataaagtct gaagaattac 300
tggtt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcacttta ggaatgctga 60
ggtcggacca gccacatctc atgtgcaaga ttgccagca gacatcagggt ctgagagttc 120
cccttttaaa aaaggggact tgcttaaaaa agaagtctag ccacgattgt gtagagcagc 180
tgtgctgtgc tggagattca cttttgagag agttctctc tgagacctga tctttagagg 240
ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcactcctt agtctgcttg 300
cctctcccag ggccccagcc tggccacacc tgcttacagg gcactctcag atgccatac 360
catagtttct gtgctagtgg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
 acttaaccag atatattttt accccagatg gggatattct ttgtaaaaaa tgaaaataaa 60
 gtttttttaa tgg 73

<210> 69
 <211> 536
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(536)
 <223> n = A,T,C or G

<400> 69
 actagtccag tgtggtggaa ttccattgtg ttgggggctc tcaccctcct ctctgcagc 60
 tccagctttg tgctctgcct ctgaggagac catggcccag catctgagta ccctgctgct 120
 cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
 cccgggtggc atctataacg cagacctcaa tgatgagtgg gtacagcgtg cccttcactt 240
 cgccatcagc gagtataaca aggccaccaa agatgactac tacagacgtc cgctgcgggt 300
 actaagagcc aggcaacaga ccgttggggg ggtgaattac ttcttcgacg tagagggtgg 360
 ccgaaccata tgtaccaagt cccagcccaa cttggacacc tgtgccttcc atgaacagcc 420
 agaactgcag aagaaacagt tgtgctcttt cgagatctac gaagttccct ggggagaaca 480
 gaangtcctt ggggtgaaatc caggtgtcaa gaaatcctan ggatctgttg ccaggc 536

<210> 70
 <211> 477
 <212> DNA
 <213> Homo sapien

<400> 70
 atgacccta acagggggccc tctcagccct cctaattgacc tccggcctag ccatgtgatt 60
 tcacttccac tccataacgc toctcatact aggcctacta accaaccacac taaccatata 120
 ccaatgatgg cgcgatgtaa cacgagaaaag cacataccaa ggccaccaca caccacctgt 180
 ccaaaaaggc cttcgatacg ggataatcct atttattacc tcagaagttt ttttcttcgc 240
 agggattttt ctgagccttt taccactcca gcctagcccc taccocccaa ctaggagggc 300
 actggccccc aacaggcatc accccgctaa atcccctaga agtcccactc ctaaacacat 360
 ccgtattact cgcacagga gtatcaatca cctgagctca ccatagtcta atagaaaaca 420
 accgaaacca aattattcaa agcactgctt attacaattt tactgggtct ctatttt 477

<210> 71
 <211> 533
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(533)
 <223> n = A,T,C or G

<400> 71
 agagctatag gtacagtgtg atctcagctt tgcaaacaca ttttctacat agatagtact 60
 aggtattaat agatatgtaa agaaagaaat cacaccatta ataatggtaa gattgggtta 120
 tgtgatttta gtggtatttt tggcaccctt atatattgtt tccaaacttt cagcagtgat 180
 attatttcca taacttaaaa agtgagtttg aaaaagaaaa tctccagcaa gcatctcatt 240
 taaataaagg tttgtcatct ttaaaaatac agcaatatgt gactttttta aaaagctgtc 300
 aaatagggtg gaccctacta ataattatta gaaatacatt taaaaacatc gagtacctca 360
 agtcagtttg ccttgaaaaa tatcaaatat aactcttaga gaaatgtaca taaaagaatg 420
 cttcgtaatt ttggagtang aggttccttc ctcaattttg tattttttaa aagtacatgg 480
 taaaaaaaaa aattcacaac agtatataag gctgtaaaat gaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72

tattacggaa	aaacacacca	cataattcaa	ctancaaaga	anactgcttc	agggcggtgta	60
aaatgaaagg	cttccaggca	gttatctgat	taaagaacac	taaaagaggg	acaaggctaa	120
aagccgcagg	atgtctacac	tatancaggc	gctatttggg	ttggctggag	gagctgtgga	180
aaacatggan	agattgggtgc	tgganatcgc	cgtggctatt	cctcattgtt	attacanagt	240
gaggttctct	gtgtgcccac	tggtttgaaa	accgttctnc	aataatgata	gaatagtaca	300
cacatgagaa	ctgaaatggc	ccaaacccag	aaagaaagcc	caactagatc	ctcagaanac	360
gcttctaggg	acaataaccg	atgaagaaaa	gatggcctcc	ttgtgcccc	gtctgttatg	420
atttctctcc	attgcagcna	naaacccgtt	cttctaagca	aacncagggtg	atgatggcna	480
aaatacacc	cctcttgaag	naccnggagg	a			511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73

cagtgccagc	actggtgcc	gtaccagtac	caataacagt	gccagtgcc	gtgccagcac	60
cagtgggtgc	ttcagtgtg	gtgccagcct	gaccgccact	ctcacatttg	ggctcttcgc	120
tggccttggt	ggagctgggt	ccagcaccag	tggcagctct	ggtgcctgtg	gtttctccta	180
caagtgagat	tttagatatt	gttaatcctg	ccagtctttc	tcttcaagcc	aggggtgcac	240
ctcagaaacc	tactcaacac	agcactctag	gcagccacta	tcaatcaatt	gaagttgaca	300
ctctgcatta	aattctatttg	ccatttctga	aaaaaaaaaa	aaaaaaagg	cggccgctcg	360
antctagagg	gcccgtttta	acccgctgat	cagcctcgac	tgtgccttct	anttgcagc	420
catctgttgt	ttgccctcc	cccgtgtgct	tcttgaccc	tggaaagtgc	cactccact	480
gtcctttcct	aantaaat					499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74

tttcatagga	gaacacactg	aggagatact	tgaagaattt	ggattcagcc	gcgaagagat	60
ttatcagctt	aactcagata	aaatcattga	aagtaataag	gtaaaagcta	gtctctaact	120
tccaggccca	cggctcaagt	gaatttgaat	actgcattta	cagtgtagag	taacacataa	180
cattgtatgc	atggaaacat	ggaggaacag	tattacagtg	tcctaccact	ctaatcaaga	240
aaagaattac	agactctgat	tctacagtga	tgattgaatt	ctaaaaatgg	taatcattag	300
ggcttttgat	ttataanact	ttgggtactt	atactaaatt	atggtagtta	tactgccttc	360
cagtttgctt	gatataattg	ttgatattaa	gattccttgac	ttatattttg	aatgggttct	420
actgaaaaan	gaatgatata	ttcttgaaga	catcgatata	catttattta	cactcttgat	480
tctacaatgt	agaaaaatgaa	ggaaatgccc	caaattgtat	ggtgataaaa	gtcccgt	537

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A,T,C or G

<400> 75
 caaanacaat tgttcaaaag atgcaaatag tacactactg ctgcagctca caaacacctc 60
 tgcattattac acgtacctcc tctgtctcct caagtagtgt ggtctatttt gccatcatca 120
 cctgctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggccatctt ttctcatcgt gttattgtcc ctagaagcgt cttctgagga 240
 tctagttggg ctttctttct gggtttgggc catttcantt ctcatgtgtg tactattcta 300
 tcattattgt ataacgggtt tcaaaccngt gggcacncag agaacctcac tctgtaataa 360
 caatgaggaa tagccacggt gatctccagc accaaatctc tccatgttnt tccagagctc 420
 ctccagccaa cccaaatagc cgctgctatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A,T,C or G

<400> 76
 aagctgacag cattcggggc gagatgtctc gctcogtggc cttagctgtg ctgcgcgtac 60
 tctctctttc tggcctggag gctatccagc gtactccaaa gattcagggt tactcacgtc 120
 atccagcaga gaatggaaa tcaaatttcc tgaattgcta tgtgtctggg tttcatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagtg gagcattcag 240
 acttgtcttt cagcaaggac tgggtctttct atctcttgta ctacactgaa ttcaccccca 300
 ctgaaaaaga tgagtatgcc tgccgtgtga accatgtgac tttgtcacag cccaagatng 360
 ttnagtggga tcganacatg taagcagcan catgggaggt 400

<210> 77
 <211> 248
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcaccct tgcccggctg tgattgtctg 120
 caggcactgt tcatctcagc ttttctgtcc ctttgcctcc ggcaagcgt tctgtctgaa 180
 gttcatatct ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa 240
 aaaaaaaa 248

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag tgtggtggaa ttccattgtg ttgggcccac cacaatggct acctttaaca 60
 tcacccagac cccgccctgc ccgtgcccca cgctgctgct aacgacagta tgatgcttac 120
 tctgtactc ggaaactatt tttatgtaat taatgtatgc tttcttggtt ataatgcct 180
 gatttaaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(552)
 <223> n = A,T,C or G

<400> 79
 tccttttgtt aggtttttga gacaacccta gacctaaact gtgtcacaga cttctgaatg 60
 tttaggcagt gctagtaatt tcctcgtaat gattctgtta ttactttcct attctttatt 120
 cctctttcct ctgaagatta atgaagttga aaattgaggt ggataaatat aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcaaaatt 240
 atgcaagtta gtaattactc agggtttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgtttctaaaa gttgggctat acataaanta tnaagaaata tggaatttta 420
 ttcccaggaa tatgggggttc atttatgaat antaccggg anagaagttt tgantnaaac 480
 cngttttggt taatacgta atatgtcctn aatnaacaag gcntgactta ttccaaaaa 540
 aaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaaccctct tattttcaga 60
 ggggaaaatg gggcctagaa gttacagagc atctagctgg tcgctggca cccctggcct 120
 cacacagact cccgagtgc tgggactaca ggcacacagt cactgaagca ggccctgttt 180
 gcaattcacg ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta 240
 aggttaaaact ttcccaccca gaaaaggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttcag cctcactttg agtcctcctt gggggttgat aggaantntc 360
 tcttggttt ctcaataaaa tctctatcca tctcatgttt aatttggtac gcntaaaaat 420
 gctgaaaaaa ttaaaatgtt ctggtttcnc tttaaaaaaa aaaaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(232)
 <223> n = A,T,C or G

<400> 81
 ttttttttg tatgcntcn ctgtggngtt attgttgctg ccaccctgga ggagcccagt 60
 ttctttctgta tctttctttt ctgggggagc ttcttggtc tgccctcca ttcccagcct 120
 ctcatcccca tcttgcaatt ttgctagggt tggaggcgct ttctggtag cccctcagag 180
 actcagtcag cgggaataag tctagggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 82
 aggcgggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactgggtgcc 60
 agtaccagta ccaataacat gccagtgccca gtgccagcac cagtgggtggc ttcagtgctg 120
 gtgccagcct gaccgccact ctcacatttg ggctcttcgc tggccttggg ggagctgggt 180
 ccagcaccag tggcagctct ggtgcctgtg gttctccta caagtgagat tttagatatt 240
 gttaatcctg ccagtctttc tcttcaagcc aggggtgcac ctcagaaacc tactcaacac 300
 agcactctng gcagccacta tcaatcaatt gaagttgaca ctctgcatta aatctatttg 360
 ccatttcaaa aaaaaaaaaa aaa 383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A,T,C or G

<400> 83
 accgaattgg gaccgctggc ttataagcga tcatgtcctc cagtattacc tcaacgagca 60
 gggagatcga gtctatacgc tgaagaaatt tgacccgatg ggacaacaga cctgctcagc 120
 ccatacctgct cgtttctccc cagatgacaa atactctcga caccgaatca ccatcaagaa 180
 acgcttcaag gtgctcatga ccagcaacc gcgcctgtc ctctgagggg ccttaaactg 240
 atgtcttttc tgccacctgt taccctcctg agactccgta accaaactct tcggactgtg 300
 agccctgatg cctttttgcc agccatactc tttggcntcc agtctctcgt ggcgattgat 360
 tatgcttgtg tgaggcaatc atggtggcat caccatnaa gggaacacat ttganttttt 420
 tttcncatat tttaaattac naccagaata nttcagaata aatgaattga aaaactctta 480
 aaaaaaaaaa aaaa 494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A,T,C or G

<400> 84
 gctggtagcc tatggcgtgg ccacgggang gctcctgagg cacgggacag tgacttccca 60
 agtatcctgc gccgcgtctt ctaccgtccc tacctgcaga tcttcgggca gattccccag 120
 gaggacatgg acgtggccct catggagcac agcaactgct cgctggagcc cggttcttgg 180
 gcacaccctc ctggggccca ggccggcacc tgcgtctccc agtatgcaa ctggctgggtg 240
 gtgctgctcc tcgtcatctt cctgctcgtg gccaacatcc tgctgggtcac ttgctcattg 300
 ccatgttcag ttacacattc ggcaaagtac agggcaacag cnatctctac tgggaaggcc 360
 agcgttnccg cctcatccgg 380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(481)

<223> n = A,T,C or G

<400> 85

gagtttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgccacca	cctcctgcat	cttggggcgg	ctaatatcca	120
ggaaactctc	aatcaagtca	ccgtcnatna	aacctgtggc	tggttctgtc	ttccgctcgg	180
tgtgaaagga	tctccagaag	gagtgtctga	tcttccccac	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgacagtgag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	ccgagccttg	tgtggggggg	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccaggngaa	420
aaagaacacc	tcttggaagt	gctngccgct	cctcgctcnt	tggtggnggc	gcntnccttt	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgctg	agaattcatt	60
acttgaaaaa	gcaacttnaa	gcctggacac	tggtattaaa	attcacaata	tgcaaacatt	120
taaacagtgt	gtcaatctgc	tcccttactt	tgtcatcacc	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtccg	aaaaaagcaa	aagtaaacag	ttnttaattt	gttagccaat	tcactttctt	300
catgggacag	agccatttga	tttaaaaagc	aaattgcata	atattgagct	ttgggagctg	360
atatntgagc	ggaagantag	cctttctact	tcaccagaca	caactccttt	catattggga	420
tgttnacnaa	agttatgtct	cttacagatg	ggatgctttt	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(413)

<223> n = A,T,C or G

<400> 87

agaaaccagt	atctctnaaa	acaacctctc	ataccttggtg	gacctaat	ttgtgtgcgtg	60
tgtgtgtgcg	cgcatattat	atagacaggc	acatcttttt	tacttttgta	aaagcttatg	120
cctcttttgt	atctatatct	gtgaaagttt	taatgatctg	ccataatgct	ttggggacct	180
ttgtcttctg	tgtaaatggt	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttattcgac	atgaaggaaa	tttccagatn	acaacactna	caaactctcc	cttgactagg	300
ggggacaaa	aaaagcnaa	ctgaacatna	gaaacaattn	cctggtgaga	aattncataa	360
acagaaattg	ggtngtatat	tgaaanang	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(448)

<223> n = A,T,C or G

<400> 88

cgcagcgggt	cctctctatc	tagctccage	ctctcgctg	ccccactccc	cgcgtcccgc	60
gtcctagccn	accatggccg	ggccccctgcg	cgccccgctg	ctcctgctgg	ccatcctggc	120
cgtggccctg	gocgtgagcc	ccgcggcccg	ctccagtcce	ggcaagccgc	cgcgcctggt	180
gggaggccca	tggaccccg	gtggaagaag	aaggtgtgcg	gcgtgcactg	gactttgccg	240
tcggcnanta	caacaaaccc	gcaacnactt	ttaccnagcn	cgcgtgcag	gttgtgccgc	300
cccaancaaa	ttgttactng	gggtaantaa	ttcttggaag	ttgaacctgg	gccaaaacnn	360
tttaccagaa	ccnagccaat	tngaacaatt	nccccctcat	aacagcccct	tttaaaaagg	420
gaancantcc	tgntcttttc	caaatattt				448

<210> 89

<211> 463

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(463)

<223> n = A,T,C or G

<400> 89

gaattttgtg	cactggccac	tgtgatggaa	ccattgggcc	aggatgcttt	gagtttatca	60
gtagtgattc	tgccaaagtt	ggtgttgtaa	catgagtatg	taaaatgtca	aaaaattagc	120
agaggtctag	gtctgcatat	cagcagacag	tttgtccgtg	tattttgtag	ccttgaagtt	180
ctcagtgaca	agttntttct	gatgcgaagt	tctnattcca	gtgttttagt	cctttgcac	240
tttnatgtn	agacttgcc	ctntnaaatt	gcttttgtnt	tctgcaggta	ctatctgtgg	300
tttaacaaaa	tagaannact	tctctgcttn	gaanatttga	atatcttaca	tctnaaaatn	360
aattctctcc	ccatannaaa	acccangccc	ttggganaat	ttgaaaaang	gntccttcnn	420
aattcnnana	anttcagtn	tcatacaaca	naacngganc	ccc		463

<210> 90

<211> 400

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(400)

<223> n = A,T,C or G

<400> 90

agggattgaa	ggtctntnt	actgtcggac	tgttcancca	ccaactctac	aagttgctgt	60
cttccactca	ctgtctgtaa	gcntnttaac	ccagactgta	tcttcataaa	tagaacaat	120
tcttcaccag	tcacatcttc	taggaccttt	ttggattcag	ttagtataag	ctcttccact	180
tcctttgtta	agacttcac	tggtaaagtc	tttaagttttg	tagaaaggaa	tttaattgct	240
cgttctctaa	caatgtcctc	tccttgaagt	atttggctga	acaaccacc	tnaagtcct	300
ttgtgcatcc	attttaaata	tacttaatag	ggcattggtn	cactagggtta	aattctgcaa	360
gagtcacctg	tctgcaaaa	ttgcgttagt	atatctgcca			400

<210> 91

<211> 480

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(480)

<223> n = A,T,C or G

<400> 91

gagctcggat	ccaataatct	ttgtctgagg	gcagcacaca	tatncagtgc	catggnaact	60
------------	------------	------------	------------	------------	------------	----

ggtctacccc	acatgggagc	agcatgccgt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gactaccgtg	tgccagtget	ggtgattctc	acacacctcc	nncgcgtctt	180
tgtggaaaaa	ctggcacttg	nctggaaacta	gcaagacatc	acttaciaat	tcacccacga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcattgctt	tttgtccctc	cggcaccagt	300
tgtcaatact	aaccgcgtgg	tttgcctcca	tcacatttgt	gatctgtagc	tctggataca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctggt	420
ngatcaggtt	cccatttccc	agtccgaatg	ttcacatggc	atatnttact	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92						
atacagccca	natcccacca	cgaagatgcg	cttgttgact	gagaacctga	tgccggtcact	60
ggtcccgttg	tagccccagc	gactctccac	ctgctggaag	cggttgatgc	tgcaactcctt	120
cccacgcagg	cagcagcggg	gccggtcaat	gaactccact	cgtggcttgg	ggttgacgggt	180
taantgcagg	aagaggctga	ccacctcgcg	gtccaccagg	atgcccgact	gtgcggggacc	240
tgcagcgaaa	ctcctcgatg	gtcatgagcg	ggaagcgaat	gangcccagg	gccttgccca	300
gaaccttccg	cctgtttctt	ggcgtcacct	gcagctgctg	ccgctnacac	tccgacctcg	360
accagcggag	aaacggcggt	gaacagccgc	acctcacgga	tgcccantgt	gtcgcgctcc	420
aggaacggcn	ccagcgtgtc	caggtcaatg	tcggtgaanc	ctccgcgggt	aatggcg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93						
gaacggctgg	accttgccctc	gcattgtgct	gctggcagga	ataccttggc	aagcagctcc	60
agtccgagca	gccccagacc	gctgccgccc	gaagctaagc	ctgcctctgg	ccttcccctc	120
cgctcaatg	cagaaccant	agtgggagca	ctgtgtttag	agttaagagt	gaacactgtn	180
tgattttact	tggaatttct	ctctgttata	tagcttttcc	caatgcta	ttccaaacaa	240
caacaacaaa	ataacatgtt	tgcctgttna	gttgtataaa	agtangtgat	tctgtatnta	300
aagaaaatat	tactgtttaca	tatactgctt	gcaantttctg	tattttattgg	tnctctggaa	360
ataaatatat	tattaaa					377

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94						
ccctttgagg	ggttagggtc	cagttcccag	tggaagaaac	aggccaggag	aantgcgtgc	60
cgagctgang	cagatttccc	acagtgaccc	cagagccctg	ggctatagtc	tctgacccct	120
ccaaggaaaag	accaccttct	ggggacatgg	gctggagggc	aggacctaga	ggcaccaagg	180
gaaggcccca	ttccggggct	gttccccgag	gaggaaggga	aggggctctg	tgtgcccccc	240

acgaggaana	ggccctgant	cctgggatca	nacacccctt	cacgtgtatc	cccacacaaa	300
tgcaagctca	ccaagggtccc	ctctcagtc	cttccctaca	ccctgaacgg	ncactggccc	360
acacccaccc	agancancca	cccgccatgg	ggaatgtnc	caaggaatcg	cngggcaacg	420
tggaactctng	tcccnnaagg	gggcagaatc	tccaatagan	gganngaacc	cttgctnana	480
aaaaaaaaana	aaaaa					495

<210> 95
 <211> 472
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(472)
 <223> n = A,T,C or G

<400> 95						
ggttacttgg	tttcattgcc	accacttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgccgag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
tagctgtttt	gagttgattc	gcaccactgc	accacaactc	aatatgaaaa	ctatttnact	180
tatttattat	cttgtgaaaa	gtatacaatg	aaaattttgt	tcatactgta	tttatcaagt	240
atgatgaaaa	gcaatagata	tatattcttt	tattatgttn	aattatgatt	gccattatta	300
atcggaacaaa	tgtggagtgt	atgttctttt	cacagtaata	tatgcctttt	gtaacttcac	360
ttggttattt	tattgtaaat	gaattacaaa	attcttaatt	taagaaaatg	gtangttata	420
tttanttcan	taatttcttt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(476)
 <223> n = A,T,C or G

<400> 96						
ctgaagcatt	tcttcaaact	tntctacttt	tgtcattgat	acctgtagta	agttgacaat	60
gtgggtgaaat	ttcaaaaatta	tatgtaactt	ctactagttt	tactttctcc	cccaagtctt	120
ttttaactca	tgattttttac	acacacaatc	cagaacttat	tatatagcct	ctaagtcttt	180
attcttcaca	gtagatgatg	aaagagtcct	ccagtgtcct	gngcanaatg	ttctagntat	240
agctggatac	atacngtggg	agttctataa	actcatacct	cagtgggact	naacccaaat	300
tgtgttagtc	tcaattccta	ccacactgag	ggagcctccc	aaatcactat	attcttatct	360
gcagggtactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaaagtn	acatctgcgt	420
tacaaagtct	atcttcctca	nangtctgt	aaggaacaat	ttaatcttct	agcttt	476

<210> 97
 <211> 479
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(479)
 <223> n = A,T,C or G

<400> 97						
actctttcta	atgctgat	gatcttgagt	ataagaatgc	atatgtcact	agaatggata	60
aaataatgct	gcaaaacttaa	tgttcttatg	caaaatggaa	cgctaatagaa	acacagctta	120
caatcgcaaa	tcaaaactca	caagtgtctca	tctgtttag	athtagtgta	ataagactta	180
gattgtgctc	cttcgggat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaaat	240
caggctacta	gaattctgtt	attggatatn	tgagagcatg	aaatttttaa	naatacactt	300

gtgattatna	aattaatcac	aaatttcact	tatacctgct	atcagcagct	agaaaaacat	360
ntnnntttta	natcaaagta	ttttgtgttt	ggaantgttn	aaatgaaatc	tgaatgtggg	420
ttnatctta	tttttcccn	gacnactant	tnctttttta	gggnctattc	tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98						
agtgacttgt	cctccaacaa	aacccttga	tcaagtttgt	ggcactgaca	atcagaccta	60
tgctagttcc	tgatcatctat	tcgctactaa	atgcagactg	gaggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgattcag	tttcctctac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccact	ctgaacacgc	tggttatcta	gatgagaaca	gagaaataaa	gtcagaaaaat	300
ttacctggag	aaaagaggct	ttggctgggg	accatcccat	tgaaccttct	cttaaggact	360
ttaagaaaaa	ctaccacatg	ttgtgtatcc	tggtgcccgc	cgtttatgaa	ctgaccaccc	420
tttgaataaa	tcttgacgct	cctgaacttg	ctcctctgcy	a		461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99						
gtggcgcgcg	gcaggtgttt	cctcgtaccg	cagggccccc	tcccttcccc	aggcgctccct	60
cggcgccctct	gcggggcccg	ggaggagcgg	ctggcggttg	gggggagtgt	gaccacacct	120
cgggtgaaaa	agccttctct	agcgatctga	gaggcgtgcc	ttgggggtac	c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100						
cggccgcaag	tgcaactcca	gctggggccg	tgccgacgaa	gattctgcca	gcagttggtc	60
cgactgcgac	gacggcgggc	gcgacagtcg	caggtgcagc	gcgggcgcct	ggggtcttgc	120
aaggctgagc	tgacgccgca	gaggtcgtgt	cacgtcccac	gaccttgacg	ccgtcgggga	180
cagccggaac	agagcccggg	gaagcgggag	gcctcgggga	gcccctcggg	aagggcggcc	240
cgagagatac	gcaggtgcag	gtggcccgcc				269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101						
tttttttttt	ttttggaatc	tactgcgagc	acagcaggtc	agcaacaagt	ttattttgca	60
gctagcaagg	taacagggtg	gggcatggtt	acatgttcag	gtcaacttcc	tttgtcgtgg	120
ttgattggtt	tgtctttatg	ggggcggggg	ggggtagggg	aaacgaagca	aataacatgg	180
agtgggtgca	ccctccctgt	agaacctggt	tacaaagctt	ggggcagttc	acctggtctg	240
tgaccgtcat	tttcttgaca	tcaatgttat	tagaagtcag	gatatctttt	agagagtcca	300
ctgttctgga	gggagattag	ggtttcttgc	caaatccaac	aaaatccact	gaaaaagttg	360
gatgatcagt	acgaataccg	aggcatattc	tcatatcggt	ggcca		405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102						
tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60

ggcacttaat	ccatttttat	ttcaaaatgt	ctacaaattt	aatcccatta	tacgggtattt	120
tcaaaatcta	aattattcaa	attagccaaa	tccttaccaa	ataataccca	aaaatcaaaa	180
atatacttct	ttcagcaaac	ttgttacata	aattaaaaaa	atatatacgg	ctgggtgtttt	240
caaagtacaa	ttatcttaac	actgcaaaaca	ttttaaggaa	ctaaaataaa	aaaaaacact	300
ccgcaaaagg	taaagggaac	aacaaattct	tttacaacac	cattataaaa	atcatatctc	360
aaatcttagg	ggaatatata	cttcacacgg	gatcttaact	tttactcact	ttgttttattt	420
ttttaaacca	ttgtttgggc	ccaacacaat	ggaatcccc	ctggactagt		470

<210> 103

<211> 581

<212> DNA

<213> Homo sapien

<400> 103

tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttatttttact	60
tacacatat	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaattggaaa	ctgccttaga	tacataattc	ttaggaatta	gcttaaaatc	tgccataaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaac	atccaaattc	240
atttttcttg	tctttaaaat	tatctaactc	ttccattttt	tccttattcc	aagtcaattt	300
gcttctctag	cctcatttcc	tagctcttat	ctactattag	taagtggctt	ttttcctaaa	360
agggaaaaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttttatgt	480
ccattttagt	cactaaacga	tatcaaagt	ccagaatgca	aaaggtttgt	gaacattttat	540
tcaaaagcta	atataagata	tttcacatac	tcacttttct	g		581

<210> 104

<211> 578

<212> DNA

<213> Homo sapien

<400> 104

tttttttttt	tttttttttt	tttttctctt	cttttttttt	gaaatgagga	tcgagttttt	60
cactctctag	atagggcatt	aagaaaactc	atctttccag	ctttaaaata	acaatcaaat	120
ctcttatgct	atatcatatt	ttaagttaaa	ctaattgagtc	actggcttat	cttctcctga	180
aggaaatctg	ttcattcttc	tcattcatat	agttatatca	agtactacct	tgcatattga	240
gagggtttttc	ttctctattt	acacatatat	ttccatgtga	atttgtatca	aacctttatt	300
ttcatgcaaa	ctagaaaata	atgtttcttt	tgcataagag	aagagaacaa	tatagcatta	360
caaaactgct	caaattgttt	gttaagttat	ccattataat	tagttggcag	gagctaatac	420
aatcacatt	tacgacagca	ataataaaac	tgaagtacca	gttaaataac	caaaaataatt	480
aaaggaacat	tttttagcctg	ggtataatta	gctaattcac	tttacaagca	tttattagaa	540
tgaattcaca	tgttattatt	cctagcccaa	cacaatgg			578

<210> 105

<211> 538

<212> DNA

<213> Homo sapien

<400> 105

tttttttttt	tttttcagta	ataatcagaa	caatattttat	tttttatattt	aaaattcata	60
gaaaagtgcc	ttacatttaa	taaaagtttg	tttctcaaag	tgatcagagg	aattagatat	120
gtcttgaaca	ccaatattaa	tttgaggaaa	atacaccaaa	atacattaag	taaattattt	180
aagatcatag	agcttgtaag	tgaaaagata	aaatttgacc	tcagaaactc	tgagcattaa	240
aatccacta	ttagcaaata	aattactatg	gacttcttgc	tttaattttg	tgatgaatat	300
ggggtgtcac	tggtaaacca	acacattctg	aaggatacat	tacttagtga	tagattctta	360
tgtactttgc	taatacgtgg	atatgagttg	acaagtttct	ctttcttcaa	tcttttaagg	420
ggcgagaaat	gaggaagaaa	agaaaaggat	tacgcatact	gttctttcta	tggaaggatt	480
agatatgttt	cctttgccaa	tattaaaaaa	ataataatgt	ttactactag	tgaaaccc	538

<210> 106

<211> 473

<212> DNA

<213> Homo sapien

<400> 106
 tttttttttt ttttttagtc aagtttctat ttttattata attaaagtct tgggtcatttc 60
 atttatttagc tctgcaactt acatatttta attaaagaaa cgttttagac aactgtacaa 120
 tttataaatg taagggtgcca ttattgagta atatattcct ccaagagtgg atgtgtccct 180
 tctcccacca actaatgaac agcaacatta gttaattttt attagtagat atacactgct 240
 gcaaacgcta attctcttct ccatcccat gtgatattgt gtatatgtgt gaggttggtag 300
 aatgcatcac aatctacaat caacagcaag atgaagctag gctgggcttt cggtgaaaat 360
 agactgtgtc tgtctgaatc aaatgatctg acctatcttc ggtggcaaga actcttcgaa 420
 ccgcttcttc aaaggcgctg ccacatttgt ggctctttgc acttgtttca aaa 473

<210> 107
 <211> 1621
 <212> DNA
 <213> Homo sapien

<400> 107
 cgccatggca ctgcagggca tctcgggtcat ggagctgtcc ggcctggccc cgggcccgtt 60
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 ccgctacgac gtgagcgctt tgggcccggg caagcgctcg ctagtgtctg acctgaagca 180
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 a 1621

<210> 108
 <211> 382
 <212> PRT
 <213> Homo sapien

<400> 108
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 35 40 45
 Gly Lys Arg Ser Leu Val Leu Asp Leu Lys Gln Pro Arg Gly Ala Ala
 50 55 60
 Val Leu Arg Arg Leu Cys Lys Arg Ser Asp Val Leu Leu Glu Pro Phe
 65 70 75 80

Arg Arg Gly Val Met Glu Lys Leu Gln Leu Gly Pro Glu Ile Leu Gln
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 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
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 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
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 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
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 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
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 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
 165 170 175
 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
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 Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
 210 215 220
 Thr Ala Asp Gly Glu Phe Met Ala Val Gly Ala Ile Glu Pro Gln Phe
 225 230 235 240
 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
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 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
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 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
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 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
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 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
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 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
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<210> 109

<211> 1524

<212> DNA

<213> Homo sapien

<400> 109

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<210> 110
 <211> 3410
 <212> DNA
 <213> Homo sapien

<400> 110

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<210> 111
 <211> 1289
 <212> DNA
 <213> Homo sapien

<400> 111						
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<210> 112
 <211> 315
 <212> PRT
 <213> Homo sapien

<400> 112	
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Phe Phe Leu Phe Phe Leu Gly Val Trp Leu Val Ala Tyr Gly Val Ala	
35 40 45	
Thr Glu Gly Leu Leu Arg Pro Arg Asp Ser Asp Phe Pro Ser Ile Leu	
50 55 60	
Arg Arg Val Phe Tyr Arg Pro Tyr Leu Gln Ile Phe Gly Gln Ile Pro	
65 70 75 80	
Gln Glu Asp Met Asp Val Ala Leu Met Glu His Ser Asn Cys Ser Ser	
85 90 95	
Glu Pro Gly Phe Trp Ala His Pro Pro Gly Ala Gln Ala Gly Thr Cys	
100 105 110	
Val Ser Gln Tyr Ala Asn Trp Leu Val Val Leu Leu Leu Val Ile Phe	

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130      135      140
Ser Tyr Thr Phe Gly Lys Val Gln Gly Asn Ser Asp Leu Tyr Trp Lys
145      150      155      160
Ala Gln Arg Tyr Arg Leu Ile Arg Glu Phe His Ser Arg Pro Ala Leu
165      170      175
Ala Pro Pro Phe Ile Val Ile Ser His Leu Arg Leu Leu Leu Arg Gln
180      185      190
Leu Cys Arg Arg Pro Arg Ser Pro Gln Pro Ser Ser Pro Ala Leu Glu
195      200      205
His Phe Arg Val Tyr Leu Ser Lys Glu Ala Glu Arg Lys Leu Leu Thr
210      215      220
Trp Glu Ser Val His Lys Glu Asn Phe Leu Leu Ala Arg Ala Arg Asp
225      230      235      240
Lys Arg Glu Ser Asp Ser Glu Arg Leu Lys Arg Thr Ser Gln Lys Val
245      250      255
Asp Leu Ala Leu Lys Gln Leu Gly His Ile Arg Glu Tyr Glu Gln Arg
260      265      270
Leu Lys Val Leu Glu Arg Glu Val Gln Gln Cys Ser Arg Val Leu Gly
275      280      285
Trp Val Ala Glu Ala Leu Ser Arg Ser Ala Leu Leu Pro Pro Gly Gly
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<210> 113
<211> 553
<212> PRT
<213> Homo sapien

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<400> 113
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Ala Ala Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val
35      40      45
Glu Glu Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly
50      55      60
Leu Val Cys Val Pro Leu Gly Ser Ala Ser Asp His Trp Arg Gly
65      70      75      80
Arg Tyr Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile
85      90      95
Leu Leu Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu
100      105      110
Leu Cys Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly
115      120      125
Val Gly Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu
130      135      140
Ala Leu Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala
145      150      155      160
Tyr Ser Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr
165      170      175
Leu Leu Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu
180      185      190
Gly Thr Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu
195      200      205
Thr Cys Val Ala Ala Thr Leu Val Ala Glu Glu Ala Ala Leu Gly
210      215      220
Pro Thr Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His
225      230      235      240

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Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu
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 290 295 300
 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
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 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
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 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
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 405 410 415
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 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
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 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
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<210> 114

<211> 241

<212> PRT

<213> Homo sapien

<400> 114

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 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe Leu Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys

115	120	125
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130	135	140
Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp		
145	150	155
Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn		
165	170	175
Asp Asn Val Thr Asn Thr Ala Asn Glu Thr Cys Thr Lys Gln Lys Ala		
180	185	190
His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile		
195	200	205
Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly		
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Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu		
225	230	235
Gln		240

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115

gctctttctc	tcccctcctc	tgaatttaaat	tcttttcaact	tgcaatttgc	aaggattaca	60
catttcactg	tgatgtatat	tgtgttgcaa	aaaaaaaaaa	gtgtctttgt	ttaaaattac	120
ttggtttgtg	aatccatctt	gctttttccc	catttggaact	agtcattaac	ccatctctga	180
actggtagaa	aaacatctga	agagctagtc	tatcagcatc	tgacagggtg	attggatggt	240
tctcagaacc	atttcaccca	gacagcctgt	ttctatcctg	tttaataaat	tagtttgggt	300
tctctacatg	cataacaaac	cctgctccaa	tctgtcacat	aaaagtctgt	gacttgaagt	360
ttagtc						366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116

acaaagatga	accatttcct	atattatagc	aaaattaaaa	tctaccgta	ttctaattatt	60
gagaaatgag	atnaaacaca	atnttataaa	gtctacttag	agaagatcaa	gtgacctcaa	120
agactttact	atnttcatat	tttaagacac	atgatttatc	ctatttttagt	aacctgggtc	180
atacggttaa	caaaggataa	tgtgaacagc	agagaggatt	tgttggcaga	aatctatgt	240
tcaatctnga	actatctana	tcacagacat	ttctattcct	tt		282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117

acacatgtcg	cttctactgcc	ttcttagatg	cttctgggtca	acatanagga	acagggacca	60
tatttatcct	ccctcctgaa	acaattgcaa	aataanacaa	aatatatgaa	acaattgcaa	120

aataaggcaa aatatatgaa acaacaggtc tcgagatatt ggaaatcagt caatgaagga	180
tactgatccc tgatcactgt cctaattgcag gatgtgggaa acagatgagg tcacctctgt	240
gactgccccca gcttactgcc tgtagagagt ttctangctg cagttcagac agggagaaat	300
tggt	305

<210> 118
 <211> 71
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(71)
 <223> n = A,T,C or G

<400> 118	
accaaggtgt ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa	60
aantcctggg t	71

<210> 119
 <211> 212
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(212)
 <223> n = A,T,C or G

<400> 119	
actccggttg gtgtcagcag cacgtggcat tgaacatngc aatgtggagc ccaaaccaca	60
gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac	120
agtaagctgg cccttctaataaaaagaaaat tgaaaggttt ctactaanc ggaattaant	180
aatggantca aganactccc aggcctcagc gt	212

<210> 120
 <211> 90
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(90)
 <223> n = A,T,C or G

<400> 120	
actcggttgca natcaggggc cccccagagt caccggttgca ggagtccttc tggctcttgcc	60
ctccgccggc gcagaacatg ctgggggtgt	90

<210> 121
 <211> 218
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(218)
 <223> n = A,T,C or G

<400> 121	
tgtancgtga anacgacaga naggggtgtc aaaaatggag aanccttgaa gtcattttga	60
gaataagatt tgctaaaaga tttggggcta aaacatggtt attgggagac atttctgaag	120

atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt tacgatngcc 180
agcatanact tcatgtgggg atancagcta cccttgta 218

<210> 122
<211> 171
<212> DNA
<213> Homo sapien

<400> 122
taggggtgta tgcaactgta aggacaaaaa ttgagactca actggcttaa ccaataaagg 60
catttgtag ctcattggaac aggaagtcgg atggtggggc atcttcagtg ctgcatgagt 120
caccaccccg gcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
<211> 76
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(76)
<223> n = A,T,C or G

<400> 123
tgtagcgtga agacnacaga atggtgtgtg ctgtgctatc caggaacaca ttattatca 60
ttatcaanta ttgtgt 76

<210> 124
<211> 131
<212> DNA
<213> Homo sapien

<400> 124
acctttcccc aaggccaatg tcctgtgtgc taactggccg gctgcaggac agctgcaatt 60
caatgtgctg ggtcatatgg aggggaggag actctaaaat agccaatttt attctcttgg 120
ttaagatttg t 131

<210> 125
<211> 432
<212> DNA
<213> Homo sapien

<400> 125
actttatcta ctggctatga aatagatggt ggaaaattgc gttaccaact ataccactgg 60
cttgaaaaag aggtgatagc tcttcagagg acttgtgact ttgctcaga tgctgaagaa 120
ctacagtctg catttggcag aaatgaagat gaatttggat taaatgagga tgctgaagat 180
ttgcctcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
ctcttgaagt atcagtcact ttgagaatg tttcttagtt actgcatact tcatggatcc 300
catggtgggg gtcttgcac tgtaagaatg gaattgattt tgcttttgca agaattctcag 360
caggaaacat cagaaccact attttctagc cctctgtcag agcaaaccct agtgccctctc 420
ctctttgctt gt 432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaaactga gctgaaattt ctaattcact ttctaaccat 60
agtaagaatg atatttcccc ccagggatca ccaaatattt ataaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127

accacgaaac cacaacaag atggaagcat caatccactt gccaaagcaca gcag

54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128

acctcattag taattgtttt gttgtttcat ttttttctaa tgtctcccct ctaccagctc	60
acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgctca	120
ttctctctga agtctagggt acccattttg gggacccatt ataggcaata aacacagttc	180
ccaaagcatt tggacagttt cttgtttgtg tttagaatgg ttttcctttt tcttagcctt	240
ttctgcaaaa aggtcactc agtcccttgc ttgtcagtg gactgggctc cccagggcct	300
aggtgcctt cttttccatg tcc	323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129

acatacatgt gtgtatatatt ttaaatatca cttttgtatc actctgactt ttagcatac	60
tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcatc	120
tagcacattc atctgtgata naaagatagg tgagtttcat ttccttcacg ttggccaatg	180
gataaacaaa gt	192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130

ccctttttta tggaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca	60
tataatgacg caacaaaaag gtgctgttta gtcctatggg tcagtttatg cccctgacaa	120
gtttccattg tgttttgccg atcttctggc taatcgtggg atcctccatg ttattagtaa	180
ttctgtattc ctttttgta acgcctggta gatgtaacct gctangaggc taactttata	240
cttatttaaa agctcttatt ttgtgggtcat taaaatggca atttatgtgc agcactttat	300
tgacgcagga agcacgtgtg gggttggtgt aaagctcttt gctaattcta aaaagtaatg	360
gg	362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 131

ctttttgaaa gatcgtgtcc actcctgtgg acatcttgtt ttaatggagt ttcccatgca	60
gtangactgg tatggttgca gctgtccaga taaaaacatt tgaagagctc caaaatgaga	120
gttctcccag gttcgccctg ctgctccaag tctcagcagc agcctctttt aggaggcatc	180
ttctgaacta gattaaggca gcttgtaaat ctgatgtgat ttggtttatt atccaactaa	240
cttccatctg ttatcactgg agaaagccca gactcccan gacnggtacg gattgtgggc	300
atanaaggat tgggtgaagc tggcgttgtg gt	332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(322)

<223> n = A,T,C or G

<400> 132

acttttgcca ttttgtatat ataaacaatc ttgggacatt ctctgaaaa ctaggtgtcc	60
agtggctaag agaactcgat ttcaagcaat tctgaaagga aaaccagcat gacacagaat	120
ctcaaattcc caaacagggg ctctgtggga aaaatgaggg aggacctttg tatctcgggt	180
tttagcaagt taaaatgaan atgacaggaa aggccttatt atcaacaaag agaagagttg	240
ggatgcttct aaaaaaaact ttggtagaga aaataggaat gctnaatcct agggaagcct	300
gtaacaatct acaattggtc ca	322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 133

acaagccttc acaagtttaa ctaaattggg attaatcttt ctgtanttat ctgcataatt	60
cttggttttc tttccatctg gctcctgggt tgacaatttg tggaaacaac tctattgcta	120
ctatttaaaa aaaatcacaa atctttccct ttaagctatg ttnaattcaa actattcctg	180
ctattcctgt tttgtcaaag aaattatatt tttcaaaata tgtntatttg tttgatgggt	240
cccacgaaac actaataaaa accacagaga ccagcctg	278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(121)

<223> n = A,T,C or G

<400> 134

gtttanaaaa ctgttttagc tccatagagg aaagaatggt aaactttgta ttttaaaaca	60
tgattctctg aggttaaact tggttttcaa atgttatttt tacttgatt ttgcttttgg	120
t	121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(350)
 <223> n = A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctataacc 60
 atancaagtg gtgactgggt aagcgtgcga caaagggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgttct aagtaggaac tagtatacag tncctaggan tggtagtcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn ccctgnaagg aactttcgct 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgcgtgag 300
 ttcccaagga tgcaaagcct ggtgctcaac tcctggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(399)
 <223> n = A,T,C or G

<400> 136
 tgtaccgtga agacgacaga agttgcatgg caggggacagg gcagggccga ggccagggtt 60
 gctgtgattg tatccgaata ntcctcgtga gaaaagataa tgagatgacg tgagcagcct 120
 gcagacttgt gtctgccttc aanaagccag acaggaaggc cctgcctgcc ttggctctga 180
 cctggcggcc agccagccag ccacagggtgg gcttcttctt tttgtggtga caacnccaag 240
 aaaactgcag agggccaggg tcagggtgtna gtgggtangt gaccataaaa caccagggtgc 300
 tcccaggaac ccgggcaaag gccatcccca cctacagcca gcatgcccac tggcgtgatg 360
 ggtgcagang gatgaagcag ccagntgttc tgctgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(165)
 <223> n = A,T,C or G

<400> 137
 actggtgtgg tnggggggtga tgctggtggt anaagttgan gtgacttcan gatggtgtgt 60
 ggaggaagtg tgtgaacgta gggatgtaga ngttttggcc gtgctaaatg agcttcggga 120
 ttggctgggtc ccactgggtgg tcaactgtcat tgggtggggt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(338)
 <223> n = A,T,C or G

<400> 138

actcactgga	atgccacatt	cacaacagaa	tcagaggtct	gtgaaaacat	taatggctcc	60
ttaacttctc	cagtaagaat	cagggacttg	aaatggaaac	gttaacagcc	acatgcccac	120
tgtctgggcag	tctcccatgc	cttccacagt	gaaagggctt	gagaaaaatc	acatccaatg	180
tcatgtgttt	ccagccacac	caaaagggtgc	ttgggggtga	gggctggggg	catananggt	240
cangcctcag	gaagcctcaa	gttccattca	gctttgccac	tgtacattcc	ccatntttaa	300
aaaaactgat	gccttttttt	tttttttttg	taaaattc			338

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 139						
gggaatcttg	gtttttggca	tctggtttgc	ctatagccga	ggccactttg	acagaacaaa	60
gaaagggact	tcagagtaaga	aggtgattta	cagccagcct	agtgcccgaa	gtgaaggaga	120
attcaaacag	acctcgatcat	tcctgggtgtg	agcctgggtcg	gctcaccgcc	tatcatctgc	180
atttgccctta	ctcaggtgct	accggactct	ggccccgat	gtctgtagtt	tcacaggatg	240
ccttattttgt	cttctacacc	ccacagggcc	ccctacttct	tcggatgtgt	ttttaataat	300
gtcagctatg	tgccccatcc	tccttcatgc	cctccctccc	tttctacca	ctgctgagtg	360
gcctggaact	tgtttaaagt	gt				382

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(200)
 <223> n = A,T,C or G

<400> 140						
accaaancctt	ctttctgttg	tgttngattt	tactataggg	gtttngcttn	ttctaaanat	60
acttttcatt	taaacancctt	tgtaagtgt	caggtgcac	tttgctccat	anaattattg	120
ttttcacatt	tcaacttgta	tggtgttgc	tcttanagca	ttggtgaaat	cacatatttt	180
atattcagca	taaaggagaa					200

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(335)
 <223> n = A,T,C or G

<400> 141						
actttatttt	caaaacactc	atatgttgca	aaaaacacat	agaaaaataa	agtttggtgg	60
gggtgctgac	taaacttcaa	gtcacagact	tttatgtgac	agattggagc	agggtttgtt	120
atgcatgtag	agaacccaaa	ctaatttatt	aaacaggata	gaaacaggct	gtctgggtga	180
aatggttctg	agaaccatcc	aattcacctg	tcagatgctg	atanactagc	tcttcagatg	240
tttttctacc	agttcagaga	tnggttaatg	actanttcca	atggggaaaa	agcaagatgg	300
attcacaaac	caagtaattt	taaacaaaga	cactt			335

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(459)

<223> n = A, T, C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgcgg	gctaaacaga	cggtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	ttttgacaaa	tcttatttta	ttcagatagc	agtctgatca	180
cacatgggcc	aacaacactc	aaataataaa	tcaaataatna	tcagatgta	aagattgggc	240
ttcaaacatc	atagccaatg	atgccccgct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccacc	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	ttttcangct	ctgaatagct	ctagggatct	420
cagcangggg	gggaggaacc	agctcaacct	tggcgtant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaac	agtctctcct	agaaaggaat	agtgtcacca	accccaccca	tctccctgag	120
accatccgac	ttccctgtgt					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(164)

<223> n = A, T, C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
atctatacca	ctctcccttc	tgaaaacaan	aatcactanc	caatcactta	tacaaatttg	120
aggcaattaa	tccatatttg	ttttcaataa	ggaaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A, T, C or G

<400> 145

acgtagacca	tccaactttg	tatttgtaat	ggcaaacatc	cagnagcaat	tcctaaacaa	60
actggagggt	atttataccc	aattatccca	ttcattaaca	tgccctcctc	ctcaggctat	120
gcaggacagc	tatcataagt	cggcccaggc	atccagatac	taccatttgt	ataaacttca	180
gtaggggagt	ccatccaagt	gacaggctta	atcaaaggag	gaaatggaac	ataagcccag	240
tagtaaaatn	ttgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac tttcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgctctgggt gggttgagaga gtcctttgac caacaggcct 120
 ccaagtcagg gctgggattt gtttcccttc cacattctag caacaatatg ctggccactt 180
 cctgaacagg gaggggtggga ggagccagca tggaacaagc tgccactttc taaagtagcc 240
 agacttgccc ctgggcctgt cacacctact gatgaccttc tgtgcctgca ggatggaatg 300
 taggggtgag ctgtgtgact ctatgggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgcc tttctatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcact 120
 gccctactac ctgctgcaat aatcacattc ccttcctgtc ctgacctga agccattggg 180
 gtggtcctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgctcac 240
 nccanccac ctcaccgacc ccatcctctt acacagctac ctccttgctc tctaacccca 300
 tagattatnt ccaaattcag tcaattaagt tactattaac actctaccg acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacncacac acacacatat 420
 ccaggcacag gctacctcat cttcacaatc acccctttaa ttaccatgct atggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggaagaac 60
 taacgtattt tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagagtcagc caggtaagtg ggtgggtgtg tatgggcaca gtgaagaaca 180
 tttcaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgattt cattgctgct ctgatggaaa cccaactatc taatttagct aaaacatggg 60
 cacttaaagt tggtcagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcgcgccag gtcattatga acattccaga tacctatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtcacca ccagctattg gaccttacta tgaaaaccat 120
 ggataccaac cggaaaaccc ctatcccgca cagccactg tggccccac tgtctacgag 180
 gtgcatccgg ctacagt 196

<210> 152
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 152
 acagcacttt cacatgtaag aaggaggaaa ttcctaaatg taggagaaag ataacagAAC 60
 cttccccctt tcatctagt gtggaaacct gatgctttat gttgacagga atagaaccag 120
 gagggagttt gt 132

<210> 153
 <211> 285
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(285)
 <223> n = A,T,C or G

<400> 153
 acaanaccca nganaggcca ctggccgtgg tgatcatggcc tccaaacatg aaagtgtcag 60
 cttctgtctt tatgtcctca tctgacaact ctttaccatt tttatcctcg ctacagcagga 120
 gcacatcaat aaagtccaaa gtcttggact tggccttggc ttggaggaag tcatcaaac 180
 cctggctagt gaggggtgcg cgccgtcctt ggatgacggc atctgtgaag tcgtgcacca 240
 gtctgcaggc cctgtggaag cgccgtccac acggagtnag gaatt. 285

<210> 154
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 154
 accacagtcc tgttgggcca gggcttcagt accctttctg tgaaaagcca tattatcacc 60
 accccaaatt tttccttaaa tatctttaac tgaaggggtc agcctcttga ctgcaaagac 120
 cctaagccgg ttacacagct aactcccact ggccctgatt tgtgaaattg ctgctgcctg 180
 attggcacag gagtcgaagg tgttcagctc ccctcctccg tggaaacgaga ctctgatttg 240
 agtttcacaa attctcgggc cacctcgtca ttgctcctct gaaataaaat ccggagaaatg 300
 gtcaggccctg tctcatccat atggatcttc cgg 333

<210> 155

<211> 308
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(308)
 <223> n = A,T,C or G

<400> 155
 actggaaata ataaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg 60
 gaaagtgtt tgggaactgt aaagtgccta acacatgatc gatgattttt gttataatat 120
 ttgaatcacg gtgcatacaa actctcctgc ctgctcctcc tgggccccag cccagcccc 180
 atcacagctc actgctctgt tcatccaggc ccagcatgta gtggctgatt cttcttggt 240
 gcttttagcc tccanaagtt tctctgaagc caaccaaacc tctangtgta aggcattgctg 300
 gccctggt 308

<210> 156
 <211> 295
 <212> DNA
 <213> Homo sapien

<400> 156
 accttgctcg gtgcttggaa catattagga actcaaaata tgagatgata acagtgccta 60
 ttattgatta ctgagagaac tgtagacat ttagtgaag attttctaca caggaactga 120
 gaataggaga ttatgtttgg ccctcatatt ctctcctatc ctcttgctt cattctatgt 180
 ctaatatatt ctcaatcaaa taagggttagc ataatcagga aatcgaccaa ataccaatat 240
 aaaaccagat gtctatcctt aagattttca aatagaaaac aaattaacag actat 295

<210> 157
 <211> 126
 <212> DNA
 <213> Homo sapien

<400> 157
 acaagtttaa atagtgtgt cactgtgcat gtgctgaaat gtgaaatcca ccacatttct 60
 gaagagcaaa acaaattctg tcatgtaatc tctatcttgg gtcgtgggta tatctgtccc 120
 cttagt 126

<210> 158
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 158
 acccactggt cttggaaaca cccatcctta atacgatgat ttttctgtcg tgtgaaaatg 60
 aanccagcag gctgccccta gtcagtcctt ccttccagag aaaaagagat ttgagaaagt 120
 gcctgggtaa ttcaccatta atttcctccc ccaaactctc tgagtcttcc cttaatattt 180
 ctgggtggtc tgaccaaagc aggtcatggt ttgttgagca tttgggatcc cagtgaagta 240
 natgtttgta gccttgata cttagccctt cccacgcaca aacggagtgg cagagtgggtg 300
 ccaaccctgt tttcccagtc cacgtagaca gattcacagt gcggaattct ggaagctgga 360
 nacagacggg ctctttgcag agccgggact ctgagangga catgagggcc tctgcctctg 420
 tgttcattct ctgatgtcct gt 442

<210> 159
 <211> 498
 <212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttccaggt aacgttggtg tttccgttga gcctgaactg atgggtgacg ttgtagggtc	60
tccaacaaga actgaggttg cagagcgggt aggggaagagt gctgttccag ttgcacctgg	120
gctgctgtgg actgttggtg attcctcact acggcccaag gttgtggaac tggcanaaaag	180
gtgtgtgtgt gganttgagc tcgggcggct gtggtagggt gtgggctctt caacaggggc	240
tgctgtgggt cggggangtg aangtggtgt gtcacttgag ctgggccagc tctggaaagt	300
antanattct tcctgaaggc cagcgccttg ggagctggca ngggtcantg ttgtgtgtaa	360
cgaaccagtg ctgctgtggg tgggtgtana tcctccacaa agcctgaagt tatggtgctn	420
tcaggttaana atgtggtttc agtgtccctg ggcngctgtg gaagggtgta nattgtcacc	480
aagggaataa gctgtggt	498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

acctgcatcc agcttccctg ccaaactcac aaggagacat caacctctag acagggaaac	60
agcttcagga tacttccagg agacagagcc accagcagca aaacaaatat tcccatgcct	120
ggagcatggc atagaggaag ctganaaatg tggggctctga ggaagccatt tgagtctggc	180
cactagacat ctcatcagcc acttgtgtga agagatgccc catgacccca gatgcctctc	240
ccacccttac ctccatctca cacacttgag ctttccactc tgtataattc taacatcctg	300
gagaaaaatg gcagtttgac cgaacctgtt cacaacggta gaggctgatt tctaacgaaa	360
cttgtagaat gaagcctgga	380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

actccacatc ccctctgagc aggcgggtgt cgttcaaggt gtatttggcc ttgcctgtca	60
cactgtccac tggccctta tccacttggt gcttaatccc tcgaaagagc atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

actttctgaa tcgaatcaaa tgatacttag tgtagtttta ataccctcat atatatcaaa	60
gttttactac tctgataatt ttgtaaacca ggtaaccaga acatccagtc atacagcttt	120
tggtgatata taacttggca ataaccagct ctggtgatac ataaaactac tcaactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(137)

<223> n = A,T,C or G

<400> 163

catttatataca	gacaggcggtg	aagacattca	cgacaaaaaac	gcgaaattct	atcccggtgac	60
canagaaggc	agctacggct	actcctacat	cctggcggtg	gtggccttcg	cctgcacctt	120
catcagcggc	atgatgt					137

<210> 164

<211> 469

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(469)

<223> n = A,T,C or G

<400> 164

cttatcacaa	tgaatgttct	cctgggcagc	gttgtgatct	ttgccacctt	cgtgacttta	60
tgcaatgcat	catgctattt	cataccta	gagggagttc	caggagattc	aaccaggaaa	120
tgcatggatc	tcaaaggaaa	caaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgctacga	aacagaaatt	tcatgttgca	cccttgtttc	tacacctgtg	240
ggttatgaca	aagacaactg	ccaaagaatc	ttcaagaagg	aggactgcaa	gtatatcgtg	300
gtggagaaga	aggacccaaa	aaagacctgt	tctgtcagtg	aatggataat	ctaattgtgt	360
tctagtaggc	acagggctcc	caggccaggc	ctcattctcc	tctggcctct	aatagtcaat	420
gattgtgtag	ccatgcctat	cagtaaaaag	atntttgagc	aaacacttt		469

<210> 165

<211> 195

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(195)

<223> n = A,T,C or G

<400> 165

acagtttttt	atanatatcg	acattgccgg	cacttgtgtt	cagtttcata	aagctgggtg	60
atccgctgtc	atccactatt	ccttggctag	agtaaaaatt	attcttatag	cccattgtccc	120
tgcaggccgc	ccgcccgtag	ttctcgttcc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcagggggc	catcagggtc	acagtcactc	atagcctcgc	60
cgaggctcga	gtccacacca	ccggtgtagg	tgtgctcaat	cttgggcttg	gcgcccacct	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgaactcg	ccaaagaatt	180
tttgacagc	agcctgagca	aggggcggat	gttcagcttc	agtcctctct	tcgtcagggtg	240
gatgccaacc	tcgtctangg	tccgtgggaa	gctggtgtcc	acntcaccta	caacctgggc	300
gangatctta	taaagaggct	ccnagataaa	ctccacgaaa	cttctctggg	agctgctagt	360

nggggccttt ttggtgaact ttc

383

<210> 167

<211> 247

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(247)

<223> n = A,T,C or G

<400> 167

acagagccag	accttggcca	taaatgaanc	agagattaag	actaaacccc	aagtcganat	60
tggagcagaa	actggagcaa	gaagtgggcc	tggggctgaa	gtagagacca	aggccactgc	120
tatanccata	cacagagcca	actctcaggc	caaggcnatg	gttggggcag	anccagagac	180
tcaatctgan	tccaaagtgg	tggctggaac	actggtcatg	acanaggcag	tgactctgac	240
tgangtc						247

<210> 168

<211> 273

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(273)

<223> n = A,T,C or G

<400> 168

acttctaagt	tttctagaag	tggaaggatt	gtantcatcc	tgaaaatggg	tttacttcaa	60
aatccctcan	ccttggttctt	cacnactgtc	tatactgana	gtgtcatgtt	tccacaaagg	120
gctgacacct	gagcctgnat	tttcaactcat	ccctgagaag	ccctttccag	taggggtgggc	180
aattcccaac	ttccttgcca	caagcttccc	aggctttctc	ccctggaaaa	ctccagcttg	240
agtcccgat	acactcatgg	gctgcctgg	gca			273

<210> 169

<211> 431

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 169

acagccttgg	cttccccaaa	ctccacagtc	tcagtgcaga	aagatcatct	tccagcagtc	60
agctcagacc	aggggtcaaag	gatgtgacat	caacagtttc	tggtttcaga	acagggttcta	120
ctactgtcaa	atgaccccc	atacttcttc	aaaggctgtg	gtaagttttg	cacagggtgag	180
ggcagcagaa	aggggggtant	tactgatgga	caccatcttc	tctgtatact	ccacactgac	240
cttgccatgg	gcaaaggccc	ctaccacaaa	aacaatagga	tcaactgctgg	gcaccagctc	300
acgcacatca	ctgacaaccg	ggatggaaaa	agaantgcca	actttcatac	atccaactgg	360
aaagtgatct	gatactggat	tcttaattac	cttcaaaagc	ttctgggggc	catcagctgc	420
tcgaacactg	a					431

<210> 170

<211> 266

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgtgggc tgggctgtta tgccctgtgcc ggctgctgaa agggagttca gaggtggagc 60
 tcaaggagct ctgcaggcat ttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgctaga aagacaccag attggagtcc tgggagggg agttggggtg ggcatattgat 180
 gtatacttgt cacctgaatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca 60
 ctggtcatgg aaaacgaatt gttctgctcg ggcgtcctgg tgcattccga gtgggtgctg 120
 tcagccgcac actgtttcca gaagtgagtg cagagctcct acaccatcgg gctgggcctg 180
 cacagtcttg aggcgcacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccag agtacaacag acccttgctc gctaacgacc tcatgtctcat caagtgggac 300
 gaatccgtgt ccgagtctga caccatccgg agcatcagca ttgcttcgca gtgccctacc 360
 gcggggaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgcctacc 420
 gtgctgcagt gcgtgaacgt gtcgggtggtg tctgaggagg tctgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgcc ggccggagggc aagaccagaa ggactcctgc 540
 aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtctttc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccagggtgtc acaccaacct ctgcaaattc 660
 actgagtggga tagagaaaac cgtccaggcc agttaactct ggggactggg aacccatgaa 720
 attgaccccc aaatacatcc tgcggaagga attcaggaat atctgttccc agccccctcct 780
 ccctcaggcc caggagtcca ggccccagc ccctcctccc tcaaaccaag ggtacagatc 840
 ccagccctcct cctccctcag acccaggagt ccagaccccc cagccctcct tccctcagac 900
 ccaggagtcc agccccctcct ccctcagacc caggagtcca gacccccccag cccctcctcc 960
 ctcagaccca ggggtccagg cccccaaccc ctctccctc agactcagag gtccaagccc 1020
 ccaaccntc attccccaga cccagaggtc cagggtccag cccctcntcc ctcagaccca 1080
 gcggtccaat gccacctaga cntccctgt acacagtgcc cccttgtggc acgttgaccc 1140
 aaccttacca gttggtttt catttttngt ccctttcccc tagatccaga aataaagttt 1200
 aagagaagng caaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg S r Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

50 Arg Met Pro Thr Val Leu 55 Gln Cys Val Asn Val 60 Ser Val Val Ser Glu
 65 Glu Val Cys Ser Lys 70 Leu Tyr Asp Pro Leu 75 Tyr His Pro Ser Met Phe
 Cys Ala Gly Gly Gln Xaa Gln Xaa Asp Ser Cys Asn Gly Asp Ser
 100 Gly Gly Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe
 115 Gly Lys Ala Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn
 130 Leu Cys Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
 145 150 155

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1265)

<223> n = A,T,C or G

<400> 173

ggcagccgc	actgcagcc	ctggcaggcg	gcactgggtca	tggaaaacga	attgtttctgc	60
tcgggcgctcc	tggtgcatcc	gcagtgggtg	ctgtcagccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggctt	gcacagtctt	gaggccgacc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctccgt	acggcaccca	gagtacaaca	gaccttgct	cgctaaccgac	240
ctcatgctca	tcaagttgga	cgaatccgtg	tccgagtctg	acaccatccg	gagcatcagc	300
attgcttcgc	agtgccttac	cgcggggaac	tcttgccctg	tttctggctg	gggtctgctg	360
gcgaacgggtg	agctcacggg	tgtgtgtctg	ccctcttcaa	ggaggtcctc	tgcccagtcg	420
cgggggctga	cccagagctc	tgcgtcccg	gcagaatgcc	taccgtgctg	cagtgcgtga	480
acgtgtcggg	gggtgtctgag	gaggtctgca	gtaagctcta	tgaccgctg	taccacccca	540
gcatgttctg	cgcggcgga	gggcaagacc	agaaggactc	ctgcaacggg	gactctgggg	600
ggccccctgat	ctgcaacggg	tacttgccag	gccttgtgtc	tttcggaaaa	gccccgtgtg	660
gccaagttgg	cgtgccaggt	gtctacacca	acctctgcaa	attcactgag	tggatagaga	720
aaaccgtcca	ggccagttta	ctctggggac	tgggaaccca	tgaaattgac	ccccaaatac	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tcctccctca	ggcccaggag	840
tccaggcccc	cagccctcc	tcctcaaac	caagggtaca	gatccccagc	ccctcctccc	900
tcagaccag	gagtcagac	ccccagccc	ctcctccctc	agaccagga	gtccagcccc	960
tcctcctca	gaccagggag	tccagacccc	ccagccctc	ctccctcaga	cccaggggtt	1020
gaggccccca	accctcctc	cttcagagtc	agaggtccaa	gcccccaacc	cctcgttccc	1080
cagaccacaga	ggttnnaggc	ccagccctc	ttcctcaga	cccagnggtc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccccttg	tggngngttg	acccaacctt	accagttggt	1200
ttttcatatt	tngtcccttt	cccctagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1459

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1459)

<223> n = A,T,C or G

<400> 174

ggtcagccgc	acactgtttc	cagaagtgag	tgcagagctc	ctacaccatc	gggctggggc	60
tgcacagtct	tgaggccgac	caagagccag	ggagccagat	ggtggaggcc	agcctctccg	120
taaggcaccc	agagtacaac	agacccttgc	tcgctaacga	cctcatgctc	atcaagttgg	180

acgaatccgt	gtccgagctct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
ccgcggggaa	ctcttgcttc	gtttctggct	ggggtctgct	ggcgaacggt	gagctcacgg	300
gtgtgtgtct	gccctcttca	aggaggtcct	ctgcccagtc	gcgggggctg	accagagact	360
ctgcgtccca	ggcagaatgc	ctaccgtgct	gcagtgcgtg	aacgtgtcgg	tgggtgtctga	420
ngaggtctgc	antaagctct	atgacccgct	gtaccacccc	ancatgttct	gcgccggcgg	480
agggcaagac	cagaaggact	cctgcaacgt	gagagagggg	aaaggggagg	gcaggcgact	540
cagggaaagg	tggagaaggg	ggagacagag	acacacaggg	ccgcatggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataaagag	aagcaaagga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaca	gcatggggcc	tgagggcggt	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacc	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgcatt	catgatatac	ctttgttga	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	ttttttaaat	tgttgcaact	ctcctaaaa	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttggttcaag	ggtcaactgt	1080
gtaccagag	ggaaacagtg	acacagattc	atagaggtga	aacacgaaga	gaaacaggaa	1140
aatcaagac	tctacaaaga	ggctgggcag	ggtggctcat	gcctgtaatc	ccagcacttt	1200
gggagggcag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggcgccgtg	1320
aatcccagct	acttgggagg	ctgaggcagg	agaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaagt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

<210> 175
 <211> 1167
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1167)
 <223> n = A, T, C or G

<400> 175						
gcgagccct	ggcaggcggc	actggctcatg	gaaaacgaat	tgttctgctc	gggcgtcctg	60
gtgcacccgc	agtgggtgct	gtcagcccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagtcttga	ggccgaccaa	gagccaggga	gccagatggg	ggaggccagc	180
ctctccgtac	ggcaccacaga	gtacaacaga	ctcttgctcg	ctaaccgacct	catgtctatc	240
aagttggacg	aatccgtgtc	cgagtctgac	accatccgga	gcatcagcat	tgcttcgcag	300
tgccctaccg	cggggaactc	ttgcctcgtn	tctggctggg	gtctgctggc	gaacggcaga	360
atgcctaccg	tgctgcactg	cgtgaacgtg	tcgggtgggt	ctgaggangt	ctgcagtaag	420
ctctatgacc	cgctgtacca	ccccagcatg	ttctgcgccg	gcggagggca	agaccagaag	480
gactcctgca	acggtgactc	tggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccaacctc	600
tgcaaattca	ctgagtggat	agagaaaacc	gtccagncca	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccc	aatacatcct	gcggaangaa	ttcagggaata	tctgttccca	720
gcccctctc	cctcaggccc	aggagtccag	gccccagcc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagcccctc	ctccctcaga	cccaggagtc	cagaccccc	agccccctnt	840
ccntcagacc	caggagtcca	gcccctcctc	cntcagacgc	aggagtccag	acccccagc	900
ccntcntccg	tcagaccag	gggtgcaggc	cccaacccc	tcntccntca	gagtcagagg	960
tccaagcccc	caacccctcg	ttccccagac	ccagaggtnc	aggtcccagc	ccctcctccc	1020
tcagaccag	cgggtccaatg	ccacctagan	tnccctgta	cacagtgcgc	ccttgtggca	1080
ngttgacca	accttaccag	ttggtttttc	attttttgtc	cctttcccct	agatccagaa	1140
ataaagtnta	agagaagcgc	aaaaaaa				1167

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Leu Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met
 100 105 110
 Pro Thr Val Leu His Cys Val Asn Val Ser Val Val Ser Glu Xaa Val
 115 120 125
 Cys Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala
 130 135 140
 Gly Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly
 145 150 155 160
 Pro Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys
 165 170 175
 Ala Pro Cys Gly Gln Leu Gly Val Pro Gly Val Tyr Thr Asn Leu Cys
 180 185 190
 Lys Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Xaa Ser
 195 200 205

<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

gagcactcgc agccctggca ggcggcactg gtcattggaaa acgaattggt ctgctcgggc 60
 gtcctgggtgc atccgcagtg ggtgctgtca gccgcacact gttccagaa ctcctacacc 120
 atcgggctgg gctgcacag tcttgaggcc gaccaagagc cagggagcca gatgggtggag 180
 gccagcctct ccgtacggca cccagagtac aacagaccct tgctcgctaa cgacctcatg 240
 ctcattcaagt tggacgaatc cgtgtccgag tctgacacca tccggagcat cagcattgct 300
 tcgcagtgcc ctaccgcggg gaactcttgc ctctgttctg gctggggtct gctggcgaaac 360
 gatgctgtga ttgccatcca gtcccagact gtgggaggct gggagtgtga gaagctttcc 420
 caaccctggc aggggtgtac catttcggca acttccagtg caaggacgtc ctgctgcatc 480
 ctactgggt gtcactact gtcactgca tcaccggaa cactgtgatc aactagccag 540
 caccatagtt ctccgaagtc agactatcat gattactgtg ttgactgtgc tgtctattgt 600
 actaaccatg ccgatgttta ggtgaaatta gcgtcacttg gcctcaacca tcttggtatc 660
 cagttatcct cactgaattg agatttcctg cttcagtgtc agccattccc acataatttc 720
 tgacctacag aggtgaggga tcatatagct cttcaaggat gctgggtactc cctcacaaa 780
 ttcatttctc ctgttgtagt gaaagggtgc cctctggag cctcccaggg tgggtgtgca 840
 ggtcacaatg atgaatgtat gatcgtgttc ccattaccca aagcctttaa atccctcatg 900
 ctacgtacac cagggcaggt ctacgatttc ttcatttagt gtatgctgtc cattcatgca 960
 accacctcag gactcctgga ttctctgcct agttgagctc ctgcatgctg cctccttggg 1020
 gaggtgaggg agagggccca tggttcaatg ggatctgtgc agttgtaaca cattaggtgc 1080
 ttaataaaca gaagctgtga tgttaaaaaa aaaaaaaaaa 1119

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa = Any Amino Acid

<400> 178
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
 100 105 110
 Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
 115 120 125
 Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
 130 135 140
 Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Thr Ala Ser
 145 150 155 160
 Pro Gly Thr Leu

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

<400> 179
 ctggagtgcc ttggtgtttc aagcccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cgggccgggg gatgcgaggc tcggagcacc cttgcccggc tgtgattgct 120
 gccaggcact gttcatctca gcttttctgt ccctttgctc ccggcaagcg cttctgctga 180
 aagttcatat ctggagcctg atgtcttaac gaataaaggc cccatgctcc acccgaaaaa 240
 aaaaaaaaaa 250

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 180
 actagtccag tgtggtggaa ttccattgtg ttggggcccaa cacaatggct acctttaaca 60
 tcacccagac cccgcccctg cccgtgcccc acgctgctgc taacgacagt atgatgctta 120
 ctctgctact cggaaactat ttttatgtaa ttaatgtatg ctttcttggt tataaatgcc 180
 tgatttaaaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

```

<400> 181
tccytttkt naggtttkkg agacamccck agacctwaan ctgtgtcaca gacttcyngg      60
aatgttttag cagtgctagt aatttcytcg taatgattct gttattactt tcctnattct      120
ttattcctct ttcttctgaa gattaatgaa gttgaaaatt gaggtggata aatacaaaaa      180
ggtagtgtga tagtataagt atctaagtgC agatgaaagt gtgttatata tatccattca      240
aaattatgca agtttagtaat tactcagggg taactaaatt actttaatat gctgttgaac      300
ctactctgtt ccttggctag aaaaaattat aaacaggact ttgttagttt gggaagccaa      360
attgataata ttctatgttc taaaagttgg gctatacata aattattaag aaatatggaw      420
ttttattccc aggaatatgg kgttcatttt atgaatatta cscrggatag awgtwtgagt      480
aaaaycagtt ttggtwaata ygtwaatatg tcmtaaataa acaakgcttt gacttatttc      540
caaaaaaaaa aaaaaaaa

```

```

<210> 182
<211> 479
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(479)
<223> n = A,T,C or G

```

```

<400> 182
acagggwttk grggtgcta agseccerga rwtggtttga tccaaccctg gcttwttttc      60
agaggggaaa atggggccta gaagttacag mscatytagy tgggtgcgmg gcacccctgg      120
cstcacacag astcccgagt agctgggact acaggcacac agtcactgaa gcaggccctg      180
ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tccttagtca      240
ctaagggttaa actttcccac ccagaaaagg caacttagat aaaatcttag agtactttca      300
tactmttcta agtcctcttc cagcctcact kkgagtcctm cytggggggt gataggaant      360
ntctcttggc tttctcaata aartctctat ycatctcatg ttttaatttg tacgcataa      420
awtgstgara aaattaaaat gttctggtty mactttaaaa aaaaaaaaaa aaaaaaaaaa      479

```

```

<210> 183
<211> 384
<212> DNA
<213> Homo sapien

```

```

<400> 183
aggcggggagc agaagctaaa gccaaagccc aagaagagtg gcagtgccag cactggtgcc      60
agtaccagta ccaataacag tgccagtgcc agtgccagca ccagtgggtg cttcagtgtc      120
ggtgccagcc tgaccgccac tctcacattt gggtctctcg ctggccttgg tggcagtgtt      180
gccagcacca gtggcagctc tgggtgcctgt ggtttctctc acaagtgaga ttttagatat      240
tgtaaatcct gccagtcttt ctcttcaagc cagggtgcac cctcagaaac ctactcaaca      300
cagcactcta ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt      360
gccatttcaa aaaaaaaaaa aaaa

```

```

<210> 184
<211> 496
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(496)
<223> n = A,T,C or G

```

```

<400> 184
accgaattgg gaccgctggc ttataagcga tcatgttynt ccrgtatcac ctcaacgagc      60
aggagatcg agtctatacg ctgaagaaat ttgaccgatg gggacaacag acctgctcag      120
cccacctcgc tcggttctcc ccagatgaca aatactctsg acaccgaatc accatcaaga      180
aacgcttcaa ggtgctcatg acccagcaac cgcgccctgt cctctgaggg tcccttaaac      240
tgatgtcttt tctgccacct gttaccctc ggagactcgg taaccaaact ctcgggactg      300

```


tgagccctga	tgcctttttg	ccagccatac	tctttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgaggcaa	tcatgggtgg	atcacccata	aagggaacac	atttgacttt	420
tttttctcat	attttaaatt	actacmagaw	tattwmagaw	waaatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkgg	cccacggagg	ggctcctgag	gccacggrac	agtgacttcc	60
caagtatcyt	gcgcsgcgtc	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggacat	ggacgtggcc	ctcatggagc	acagcaactg	ytcgctggag	cccggcttct	180
gggcacaccc	tccctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aactggctgg	240
tgggtgctgct	cctcgctcatc	ttcctgctcg	tggccaacat	cctgctggtc	aacttgctca	300
ttgccatgtt	cagttacaca	ttcggcaaag	tacagggcaa	cagcgatctc	tactgggaag	360
gcgcagcgtt	accgcctcat	ccgg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n = A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	cgtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgte	atactgtagg	tttgccacca	cytcctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaaacctgt	gggctgggtc	tgtcttcgcg	180
tcgggtgtgaa	aggatctccc	agaaggagtg	ctcgcatttc	cccacacttt	tgatgacttt	240
attgagtcga	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgccgttga	mcgtgccgaa	garcaccgag	ccttggtgtg	gggkkgaagt	360
ctcaccacga	ttctgcatta	ccagagagcc	gtggcaaaaag	acattgacaa	actcgcccag	420
gtggaaaaag	amcamctcct	ggargtgctn	gccgctcctc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaggca	ttttcagccc	ccagaaantt	gtcatcatcc	540
aagatntcgc	acagcactna	tccagttggg	attaaat			577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187						
aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctgggtattaa	aattcacaat	atgcaacact	120
ttaaacagtg	tgtcaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtg	180
tgccctattc	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagc	aaaagtaaac	agttatyaat	ttgttagcca	attcactttc	300
ttcatgggac	agagccatyt	gatttaaaaa	gcaaatgca	taatattgag	cttygggagc	360
tgatatttga	gcggaagagt	agcctttcta	cttcaccaga	cacaactccc	tttcatattg	420
ggatgttnac	naaagtwatg	tctctwacag	atgggatgct	tttgtggcaa	ttctgttctg	480
aggatctccc	agtttattta	ccacttgcac	aagaaggcgt	tttcttctc	aggc	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(761)
 <223> n = A,T,C or G

<400> 188
 agaaaaccagt atctctnaaa acaacctctc ataccttgtg gacctaatTT tgtgtgogtg 60
 tgtgtgtgCG cgcataattat atagacaggc acatcttttt tacttttgta aaagcttatg 120
 cctcttttggT atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
 ttgtcttctg tgtaaatggT actagagaaa acacctatnt tatgagtcaa tctagttngt 240
 tttattcgac atgaaggaaa ttccagatn acaacactna caaactctcc ctkgackarg 300
 ggggacaaag aaaagcaaaa ctgamcataa raaacaatwa cctgggtgaga arttgcataa 360
 acagaaatwr ggtagtatat tgaarnacag catcattaaa rmgtttwktt wttctccctt 420
 gcaaaaaaca tgtacngact tcccgttgag taatgccaag ttgttttttt tatnataaaa 480
 cttgcccttc attacatggt tnaaagtggT gtgggtgggCC aaaatattga aatgatggaa 540
 ctgactgata aagctgtaca aataagcagt gtgcctaaca agcaacacag taatgttgac 600
 atgcttaatt cacaaatgct aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
 tttttctgtn ttccagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
 gaaaataata acattgaaga aaaaananaaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 189
 tttttttttt tttgccgatn ctactatttt attgcaggan gtgggggtgt atgcaccgca 60
 caccggggct atnagaagca agaaggaagg agggagggca cagccccttg ctgagcaaca 120
 aagccgcctg ctgccttctc tgtctgtctc ctgggtgcagg cacatgggga gaccttcccc 180
 aaggcagggg ccaccagtcc aggggtggga atacaggggg tgggangtgt gcataagaag 240
 tgataggcag aggccacccg gtacagaccc ctcggctcct gacaggtnga tttcgaccag 300
 gtcattgtgc cctgccagg cacagcgTan atctggaaaa gacagaatgc tttccttttc 360
 aaatttggct ngTcatngaa ngggcanttt tccaanttng gctnggtctt ggtacncttg 420
 gttcggccca gctccncgtc caaaaantat tcacccnct ccnaattgct tgcnggnccc 480
 cc 482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(471)
 <223> n = A,T,C or G

<400> 190
 tttttttttt tttttaaaca gtttttcaca acaaaattta ttagaagaat agtggttttg 60
 aaaactctcg catccagtga gaactacat acaccacatt acagctngga atgtnctcca 120
 aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag 180
 cgcttttgac atacaatgca caaaaaaaa aggggggggg gaccacatgg attaaaattt 240
 taagtactca tcacatacat taagacacag ttctagtcca gtcnaaaatc agaactgcnt 300

tgaaaaattt	catgtatgca	atccaaccaa	agaacttnat	tggtgatcat	gantncteta	360
ctacatcnac	cttgatcatt	gccaggaacn	aaaagttnaa	ancachcngt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aaatnttnt	tatacactcc	c	471

<210> 191
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(402)
 <223> n = A,T,C or G

<400> 191	
gagggattga	agggtctgttc
gtcttccact	cactgtctgt
attcttcacc	agtcacatct
cttcctttgt	taagacttca
ctcgttctct	aacaatgtcc
ctttgtgcat	ccattttaaa
aagagtcac	tgctgtgcaa
agggtctgttc	tastgtcggm
aagcttttta	acctttttta
tctaggacct	ttttggattc
tctggtaaag	tcttaagttt
tctccttgaa	gtatttggtc
tatacttaat	agggcattgk
agttgcgtta	gtatatctgc
accaaactcta	acaagttgct
tatcttcata	aatagaacaa
agttagtata	agctcttcca
tgtagaaagg	aattyaattg
gaacaaccca	cctaaagtcc
tncactaggt	taaattctgc
ca	

<210> 192
 <211> 601
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(601)
 <223> n = A,T,C or G

<400> 192	
gagctcggat	ccaataatct
ggtctacccc	acatggggag
atgcytyttt	gaytaccggtg
cttttgtgga	aaaactggca
acgagacact	tgaaagggtg
cagttgtcaa	tactaaccgg
tacatctcct	gacagtactg
tgttggatca	ggttcccat
aaaacattgc	gatttgaggc
cctcgatgta	gccggccagc
gcagcacaca	tatncagtgc
agntatataa	ggtcattccc
tggtgattct	yaacacacyt
actagcarga	catcacttac
ytcttgcat	gctttttgtc
tccatcacat	ttgtgatctg
tcttttgttt	caaaagcarg
aatgttcaca	tgcatatatt
caaatcctgt	tccggcattg
gcgccgtgag	ccccaccagc
agcagaagca	

<210> 193
 <211> 608
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(608)
 <223> n = A,T,C or G

<400> 193	
atacagccca	natcccacca
ggtcccgtcg	tagccccagc
cccaacgcag	gcagmagcgg
tkaagtgcag	gaagaggctg
ctgcagcgaa	actcctcgat
cgaagatgcg	cttggtgact
ctgctggaag	cggttgatgc
tgactccay	tcgtggcttg
gatgcccag	tgtgcgggac
gggaagcgaa	tgaggcccag
ggccttgccc	

agaaccttcc gctgtttctc tggcgtcacc tgcagctgct gccgctgaca ctccggcctcg	360
gaccagcgga caaacggcrt tgaacagccg cacctcacgg atgcccagtg tgtcgcgctc	420
caggammgsc accagcgtgt ccaggtcaat gtccgtgaag ccctccgcgg gtrattggcgt	480
ctgcagtgtt tttgtcgatg ttctccaggg acaggctggc cagctgcggt tcatcgaaga	540
gtcgcgcctg cgtgagcagc atgaaggcgt tgtcggctcg cagttcttct tcaggaactc	600
cacgcaat	608

<210> 194

<211> 392

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(392)

<223> n = A,T,C or G

<400> 194

gaacggctgg accttgccctc gcatttgtgt tgctggcagg gaataccttg gcaagcagyt	60
ccagtcggag cagccccaga ccgctgccgc ccgaagctaa gcctgcctct ggccttcccc	120
tccgctcaa tgcagaacca gtatgtggag cactgtgttt agagttaaga gtgaacactg	180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccaaac	240
aacaacaaca aaataacatg tttgcctgtt aagttgtata aaagtagtg attctgtatt	300
taaagaaat attactgtta catatactgc ttgcaatttc tgtatttatt gktnctstgg	360
aaataaatat agttattaaa ggttgtcant cc	392

<210> 195

<211> 502

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(502)

<223> n = A,T,C or G

<400> 195

ccsttkgagg ggtkaggkyc cagttyccga gtggaagaaa caggccagga gaagtgcgtg	60
ccgagctgag gcagatgttc ccacagtgc cccagagcc stgggstata gtytctgacc	120
cctcncaagg aaagaccacs ttctggggac atgggctgga gggcaggacc tagaggcacc	180
aaggggaagg cccattccgg ggstgttccc cgaggaggaa ggggaagggc tctgtgtgcc	240
ccccagagg aagaggccct gagtccctgg atcagacacc ccttcacgtg tatccccaca	300
caaatgcaag ctccaccaag tcccctctca gtccccttcc stacaccctg amcgccact	360
gscscacacc caccagagc acgccaccgc ccatggggar tgtgctcaag gartcgcnng	420
gcarcgtgga catctngtcc cagaaggggg cagaatctcc aatagangga ctgarcmstt	480
gctnanaaaa aaaaanaaaa aa	502

<210> 196

<211> 665

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(665)

<223> n = A,T,C or G

<400> 196

ggttacttgg tttcattgcc accacttagt ggatgtcatt tagaaccatt ttgtctgctc	60
cctctggaag ccttgccgag agcggacttt gtaattgttg gagaataact gctgaatttt	120
wagctgtttk gagttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga	180
actwatttat tatcttgtga aaagtataac aatgaaaatt ttgttcatac tgtattkac	240

aagtatgatg	aaaagcaawa	gatatatatt	cttttattat	gttaaattat	gattgccatt	300
attaatcggc	aaaatgtgga	gtgtatgttc	ttttcacagt	aatatatgcc	ttttgtaact	360
tcacttggtt	attttattgt	aaatgartta	caaaattctt	aatttaagar	aatggtagt	420
watatttatt	tcattaattt	ctttcctkgt	ttacgtwaat	tttgaaaaga	wtgcatgatt	480
tcttgacaga	aatcgatctt	gatgctgtgg	aagtagtttg	acccacatcc	ctatgagttt	540
ttcttagaat	gtataaagg	tgtagcccat	cnaacttcaa	agaaaaaat	gaccacatac	600
tttgcaatca	ggctgaaatg	tggcatgctn	ttctaattcc	aactttataa	actagcaaan	660
aagtg						665

<210> 197
 <211> 492
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(492)
 <223> n = A,T,C or G

<400> 197	
tttntttttt	ttttttttgc aggaaggatt ccattttattg tggatgcatt ttcacaatat 60
atgtttattg	gagcgatcca ttatcagtga aaagtatcaa gtgtttataa natttttagg 120
aaggcagatt	cacagaacat gctngtcngc ttgcagtttt acctcgtana gatnacagag 180
aattatagtc	naaccagtaa acnaggaatt tacttttcaa aagattaaat ccaaactgaa 240
caaaattcta	ccctgaaact tactccatcc aaatattgga ataanagtca gcagtgatac 300
attctcttct	gaacttttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct 360
tgttcaaaaag	tacaacnaag caatgttccc ttaccatagg ccttaattca aactttgatc 420
catttcactc	ccatcacggg agtcaatgct acctgggaca cttgtatttt gttcatnctg 480
ancntggctt	aa 492

<210> 198
 <211> 478
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(478)
 <223> n = A,T,C or G

<400> 198	
tttnttttgn	atttcantct gtannaanta ttttcattat gtttattana aaaatatnaa 60
tgtntccacn	acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac 120
tgagtatatt	ttgaaaagga caagttttaa gtanacncat attgccganc atancacatt 180
tatacatggc	ttgattgata ttttagcacag canaaactga gtgagttacc agaaanaaat 240
natatatgtc	aatcngattt aagatacaaa acagatccta tggtagatan catcntgtag 300
gagttgtggc	tttatgttta ctgaaagtca atgcagttcc tgtacaaaga gatggccgta 360
agcattctag	tacctctact ccatgggtta gaatcgta cttatgttta catatgtntca 420
gggtaagaat	tgtgttaagt naanttatgg agaggccan gagaaaaatt tgatncaa 478

<210> 199
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(482)
 <223> n = A,T,C or G

<400> 199	
agtgacttgt	cctccaacaa aacccttga tcaagtttgt ggcactgaca atcagacctta 60

tgctagttcc	tgatcatctat	tcgctactaa	atgcagactg	gagggggacca	aaaaggggca	120
tcaactccag	ctggattatt	ttggagcctg	caaactctatt	cctacttgta	cggactttga	180
agtgattcag	tttccctctac	ggatgagaga	ctgggtcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggctttngg	ctggggacca	tcccattgaa	ccttctctta	360
anggacttta	agaanaaaact	accacatgtn	tgtngtatcc	tggtgccngg	ccgtttantg	420
aacntngacn	ncacccttnt	ggaatanant	cttgacngcn	tcctgaactt	gctcctctgc	480
ga						482

<210> 200
 <211> 270
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(270)
 <223> n = A,T,C or G

<400> 200	
cggccgcaag	tgcaactcca
cgactgcgac	gacggcgggc
aaggctgagc	tgacgcgcga
cagccggaac	agagcccggg
ccgagagata	cgacagtgca
gctggggccg	tgccgacgaa
gacggcgagc	cagggtgcagc
gaggtcggtg	cacgtcccac
gaangcgggg	ggcctcgggg
ggtggccgcg	agccccctcg
	gcagttgggc
	gggggtcttg
	ccgtcggggg
	gaagggcggc

<210> 201
 <211> 419
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(419)
 <223> n = A,T,C or G

<400> 201	
tttttttttt	ttttggaatc
gctagcaagg	taacagggtg
ttgattgggt	tgtctttatg
tggagtgggt	gcaccctccc
tctgtgaccg	tcattttctt
tccactgtnt	ctggaggggg
aaaagtggga	tgatncangt
tactgcgagc	acagcaggtc
acatgttcag	gtcaacttcc
ggggtagggg	aaancgaagc
ggttacnaaa	gcttggggga
ttattagaag	tcaggatatc
cttgccaana	tccaancaaa
ganggcatan	ttctcatant
	cggtggcca

<210> 202
 <211> 509
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(509)
 <223> n = A,T,C or G

<400> 202	
tttntttttt	tttttttttt
tggaacttaa	tccattttta
gtnattttnc	aaaatctaaa
tacnncnaaa	aatcaaaaat
aatatatacg	gctgggtgtt
ggaactaaaa	taaaaaaaa
tttcaaaaatg	tctacaaant
nntttattcaa	atntnagcca
atacntntct	ttcagcaaac
attatcttaa	cactgcaaac
aaggttaaag	ggaacaacaa
	attcntttta

```

caacancnnc nattataaaa atcatatctc aaatcttagg ggaatatata cttcacacng      420
ggatcttaac ttttactnca cttgtttat ttttttanaa ccattgtntt gggcccaaca      480
caatggnaat nccnccnnc tggactagt                                     509

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<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

```

```

<400> 203
tttttttttt ttttttttga cccccctctt ataaaaaaca agttaccatt ttatttttact      60
tacacatatt tattttataa ttggtattag atattcaaaa ggcagctttt aaaatcaaac      120
taaattgaaa ctgccttaga tacataattc ttaggaatta gcttaaaatc tgcctaaagt      180
gaaaatcttc tctagctctt ttgactgtaa atttttgact cttgtaaaac atccaaattc      240
atttttcttg tctttaaaat tatctaactc ttccattttt tccctattcc aagtcaattt      300
gcttctctag cctcatttcc tagctcttat ctactattag taagtggctt ttttcctaaa      360
agggaaaaca ggaagagana atggcacaca aaacaaacat tttatattca tatttctacc      420
tacgttaata aaatagcatt ttgtgaagcc agctcaaaag aaggcttaga tccttttatg      480
tccattttag tcaactaaacg atatcnaaag tgccagaatg caaaagggtt gtgaacattt      540
attcaaaagc taatataaga tatttcacat actcatcttt ctg                                     583

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```

<210> 204
<211> 589
<212> DNA
<213> Homo sapien

```

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<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

```

```

<400> 204
ttttttttnt tttttttttt ttttttnctc ttcttttttt ttganaatga ggatcgagtt      60
tttactcttc tagatagggc atgaagaaaa ctcatctttc cagcttttaa ataacaatca      120
aatctcttat gctatatcat attttaagtt aaactaatga gtcactggct tatcttctcc      180
tgaaggaaat ctgttcattc ttctcattca tatagttata tcaagtacta ccttgcatat      240
tgagagggtt ttcttctcta ttacacata tatttccatg tgaatttgta tcaaaccctt      300
attttcatgc aaactagaaa ataattgntt cttttgcata agagaagaga acaatatnag      360
cattacaaaa ctgctcaaat tgtttgtaa gnntatccat tataattagt tnggcaggag      420
ctaatacaaa tcacatttac ngacnagcaa taataaaact gaagtaccag ttaaatatcc      480
aaaataatta aaggaacatt tttagcctgg gtataattag ctaattcact ttacaagcat      540
ttattnagaa tgaattcaca tgttattatt ccntagccca acacaatgg                                     589

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<210> 205
<211> 545
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(545)
<223> n = A,T,C or G

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```

<400> 205
ttttnttttt ttttttcagt aataatcaga acaatattta tttttatatt taaaattcat      60
agaaaagtgc cttacattta ataaaagttt gtttctcaaa gtgatcagag gaattagata      120
tngtcttgaa caccaatatt aatttgagga aaatacacca aaatacatta agtaaattat      180

```

ttaagatcat	agagcttgta	agtgaaaaga	taaaatttga	cctcagaaac	totgagcatt	240
aaaaatccac	tattagcaaa	taaattacta	tggacttctt	gctttaattt	tgtgatgaat	300
atggggtgtc	actggtaaac	caacacattc	tgaaggatac	attacttagt	gatagattct	360
tatgtacttt	gctanatnac	gtggatatga	gttgacaagt	ttctctttct	tcaatctttt	420
aaggggcnga	ngaaatgagg	aagaaaagaa	aaggattacg	catactgttc	tttctatngg	480
aaggattaga	tatgtttcct	ttgccaatat	taaaaaata	ataatgttta	ctactagtga	540
aacc						545

<210> 206
 <211> 487
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(487)
 <223> n = A,T,C or G

<400> 206	
tttttttttt	tttttttagtc aagttttctna tttttatttat aattaaagtc ttgggtcattt 60
catttatttag	ctctgcaact tacatatttta aattaaagaa acgttnttag acaactgtna 120
caatttataa	atgtaagggtg ccattatttga gtanatatat tcctccaaga gtggatgtgt 180
cccttctccc	accaactaat gaancagcaa cattagttta attttatttag tagatnatac 240
actgtgcaa	acgctaattc tcttctccat ccccatgtng atattgtgta tatgtgtgag 300
ttggtnagaa	tgcatacanca atctnacaat caacagcaag atgaagctag gcntgggctt 360
tcggtgaaaa	tagactgtgt ctgtctgaat caaatgatct gacctatcct cgggtggcaag 420
aactcttcga	accgcttctt caaaggcngc tgccacattt gtggcntctn ttgcacttgt 480
ttcaaaa	
	487

<210> 207
 <211> 332
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(332)
 <223> n = A,T,C or G

<400> 207	
tgaattggct	aaaagactgc atttttanaa ctagcaactc ttatttcttt cctttaaaaa 60
tacatagcat	taaatcccaa atcctatttta aagacctgac agcttgagaa ggtcactact 120
gcatttatag	gaccttctgg tggttctgct gttacntttg aantctgaca atccttgana 180
atctttgcat	gcagaggagg taaaagggtat tggattttca cagaggaana acacagcgca 240
gaaatgaagg	ggccaggctt actgagcttg tccactggag ggctcatggg tgggacatgg 300
aaaagaaggc	agcctaggcc ctggggagcc ca
	332

<210> 208
 <211> 524
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(524)
 <223> n = A,T,C or G

<400> 208	
agggcgtggt	gcgaggggcg ttactgtttt gtctcagtaa caataaatac aaaaagactg 60
gttgtgttcc	ggcccatcc aaccacgaag ttgatttctc ttgtgtgcag agtgactgat 120
tttaaaggac	atggagcttg tcacaatgtc acaatgtcac agtgtgaagg gcacactcac 180
tcccgcgtga	ttcacattta gcaaccaaca atagctcatg agtccatact tgtaaatact 240

tttggcagaa tacttnttga aacttgcaga.tgataactaa gatccaagat atttcccaaa	300
gtaaatagaa gtgggtcata atattaatta cctgttcaca tcagcttcca ttacaagtc	360
atgagcccag aactgacat caaactaagc ccacttagac tcctcaccac cagtctgtcc	420
tgtcatcaga caggaggctg tcaccttgac caaattctca ccagtcaatc atctatccaa	480
aaaccattac ctgatccact tccggtaatg caccaccttg gtga	524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209	
gggtgaggaa atccagagtt gccatggaga aaattccagt gtcagcattc ttgctccttg	60
tggccctctc ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca	120
caaaggactc tcgacccaaa ctgccccaga ccctctcca	159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210	
actccctggc agacaaaggc agaggagaga gctctgttag ttctgtgttg ttgaactgcc	60
actgaatttc ttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta	120
tggggagatt ttanccaatt tangtntgta aatggggaga ctggggcagg cgggagagat	180
ttgcagggtg naaatgggan ggctgggttg ttanatgaac agggacatag gaggtaggca	240
ccaggatgct aaatca	256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211	
acattgtttt ttgagataa agcattgaga gagctctcct taacgtgaca caatggaagg	60
actggaacac ataccacat ctttgttctg agggataatt ttctgataaa gtcttgctgt	120
atattcaagc acatatgtta tatattattc agttccatgt ttatagccta gttaaggaga	180
ggggagatac attcngaaag aggactgaaa gaaatactca agtnggaaaa cagaaaaaga	240
aaaaaaggag caaatgagaa gcct	264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212	
acccaaaaat ccaatgctga atatttggtc tcattattcc canattcttt gattgtcaaa	60

ggattttaatg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaattttca	ttcccattga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
cccctacnac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtcaga				328

<210> 213
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 213						
acttatgagc	agagcgacat	atccnagtgt	agactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataanc	catgttaana	aacaaatata	tctctnacct	240
tctcatcggt						250

<210> 214
 <211> 444
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(444)
 <223> n = A,T,C or G

<400> 214						
acccagaatc	caatgctgaa	tatttggtt	cattattccc	agattccttg	attgtcaaag	60
gattttaatg	tgtctcagct	tgggcacttc	agttaggacc	taaggatgcc	agccggcagg	120
tttatatatg	cagcaacaat	attcaagcgc	gacaacagg	tattgaactt	gcccggcagg	180
tgaatttcat	tcccattgac	ttgggatcct	tatcatcagc	canagagatt	gaaaattttac	240
ccctacgact	ctttactctc	tggagagggc	cagtgggtgt	agctataagc	ttggccacat	300
ttttttttcc	tttattcctt	tgtcagagat	gcgattccat	catatgctan	aaaccaacag	360
agtgactttt	acaaaattcc	tataganatt	gtgaataaaa	ccttacctat	agttgccatt	420
actttgctct	ccctaataata	cctc				444

<210> 215
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 215						
acttatgagc	agagcgacat	atccaagtgt	anactgaata	aaactgaatt	ctctccagtt	60
taaagcattg	ctcactgaag	ggatagaagt	gactgccagg	agggaaagta	agccaaggct	120
cattatgcca	aagganatat	acatttcaat	tctccaaact	tcttctcat	tccaagagtt	180
ttcaatattt	gcatgaacct	gctgataagc	catgttgaga	aacaaatata	tctctgacct	240
tctcatcggt	aagcagaggg	tgtaggcaac	atggaccata	gcgaanaaaa	aacttagtaa	300
tccaagctgt	tttctacact	gtaaccaggt	ttccaaccaa	ggtggaaatc	tcctatactt	360
ggtgcc						366

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggccgggc caggagaatc tccgcttgct 60
 caagacaggg gcctaaggag ggtctccaca ctgctnntaa gggctnttnc atttttttat 120
 taataaaaag tnnaaaaggc ctcttctcaa cttttttccc ttnggctgga aaatttaaaa 180
 atcaaaaatt tcctnaagtt ntcaagctat catatatact ntatcctgaa aaagcaacat 240
 aattcttctt tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 acctacgtgg gtaagtttan aaatgttata atttcaggaa naggaacgca tataattgta 60
 tcttgcttat aattttctat ttttaataagg aaatagcaaa ttgggggtgg gggaatgtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaaaaatttt 180
 atgaataatc tgtatgatta tatgtctcta gagtagattt ataattagcc acttacccta 240
 atatccttca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 accaaggtgg tgcattaccg gaantggatc aangacacca tegtggccaa cccctgagca 60
 cccctatcaa ctcccttttg tagtaaaactt ggaacottgg aaatgaccag gccaagactc 120
 aggctcccc agttctactg acctttgtcc ttangntna ngtccagggt tgctaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc	acaaaaggca	gggtagcctg	aattgctttc	tgctctttac	atttctttta	60
aaataagcat	ttagtgctca	gtccctactg	agt			93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca	ggtgcgcaca	aatatttgtc	gatattccct	tcattcttga	ttccatgagg	60
tcttttgccc	agcctgtggc	tctactgtag	taagttttctg	ctgatgagga	gccagnatgc	120
ccccactac	cttccctgac	gtcctccana	aatcacccaa	cctctgt		167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcggtggt	gcgaggggcg	gtactgacct	cattagtagg	aggatgcatt	ctggcacccc	60
gttcttcacc	tgtcccccaa	tccttaaaag	gccatactgc	ataaagtcaa	caacagataa	120
atgtttgctg	aattaaagga	tggatgaaaa	aaattaataa	tgaatttttg	cataatccaa	180
ttttctcttt	tatatcttcta	gaagaagttt	ctttgagcct	attagatccc	gggaatcttt	240
taggtgagca	tgattagaga	gcttgtaggt	tgctttttaca	tatatctggc	atatttgagt	300
ctcgtatcaa	aacaatagat	tggtaaaggt	ggtattattg	tattgataag	t	351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaacaaaca	aacaaaaaaa	acaattcttc	attcagaaaa	attatcttag	ggactgatat	60
tggttaattat	ggtcaattta	atwrttrttk	ggggcatttc	cttacattgt	cttgacaaga	120
ttaaaatgtc	tgtgccaaaa	ttttgtattt	tatttgagga	cttcttatca	aaagtaatgc	180
tgccaaagga	agtctaagga	attagtagtg	ttcccmteac	ttgtttgagg	tgtgctattc	240
taaaagattt	tgatttctctg	gaatgacaat	tatatcttaa	ctttggtggg	ggaaanagtt	300
ataggaccac	agtcttcact	tctgatactt	gtaaattaat	cttttattgc	acttgttttg	360
accattaagc	tatatgttta	aaa				383

<210> 224

<211> 320

<212> DNA

<213> Homo sapien

<400> 224

cccctgaagg	cttcttggtta	gaaaatagta	cagttacaac	caataggaac	aacaaaaaga	60
aaaagtttgt	gacattgtag	tagggagtg	gtaccctcta	ctcccatca	aaaaaaaaat	120
ggatacatgg	ttaaaggata	raagggaat	attttatcat	atgttctaaa	agagaaggaa	180

gagaaaatac tacttttctc aaatggaagc ccttaaaggt gctttgatac tgaaggacac	240
aaatgtggcc gtccatcctc ctttaragtt gcatgacttg gacacggtaa ctgttgagc	300
tttaractcm gcaattgtgac	320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225

gaggactgca gccgcactc gcagccctgg caggcgccac tgggtcatgga aaacgaattg	60
ttctgctcgg gcgtcctggg gcatccgcag tgggtgctgt cagccgcaca ctgtttccag	120
aactcctaca ccacgaggct gggcctgcac agtcttgagg ccgaccaaga gccagggagc	180
cagatgggtg aggccagcct ctccgtacgg caccagagt acaacagacc ctgtctcgct	240
aacgacctca tgctcatcaa gttggacgaa tccgtgtccg agtctgacac catccggagc	300
atcagcattg cttcgcagtg ccctaccgag gggaactctt gcctcgtttc tgggtggggg	360
ctgctggcga acggcagaat gcctaccgtg ctgcagtgcg tgaacgtgtc ggtgggtgtc	420
gaggaggtct gcagtaagct ctatgacccg ctgtaccacc ccagcatgtt ctgcgcggc	480
ggagggcaag accagaagga ctctgcacac ggtgactctg gggggccctt gatctgcaac	540
gggtacttgc agggccttgt gtctttcgga aaagcccgtt gtggccaagt tggcgtgcca	600
ggtgtctaca ccaacctctg caaattcact gagtggatag agaaaaccgt ccaggccagt	660
taactctggg gactgggaac ccctgaaatt gacccccaaa tacatcctgc ggaaggaatt	720
caggaatctc tgttcccagc ccctcctccc tcaggcccag gagtccaggc cccagcccc	780
tcctccctca aaccaagggt acagatcccc agcccctcct ccctcagacc caggagtcca	840
gacccccag cccctcctcc ctccagacca ggagtccagc ccctcctccc tcagaccag	900
gagtccagac cccccagccc ctccctccc agaccagggt gtccaggccc ccaaccctc	960
ctccctcaga ctccagaggt caagccccca acccctcctt cccagacccc agaggtccag	1020
gtccagccc ctccctccc agaccagcg gtccaatgcc acctagactc tccctgtaca	1080
cagtgcctccc ttgtggcagc ttgacccaac cttaccagtt ggtttttcat tttttgtccc	1140
tttccctag atccagaaat aaagtctaag agaagcgcaa aaaaaaaaaa aaaaaaaaaa	1200
aaaaaaaaaa aaaa	1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226

accagtatg tgcagggaga cggaacccca tgtgacagcc cactccacca gggttcccaa	60
agaacctggc ccagtcataa tcattcatcc tgacagtggc aataatcacg ataaccagt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227

acaattcata gggacgacca atgaggacag ggaatgaacc cggctctccc ccagccctga	60
tttttgctac atatgggggt ccttttcatt ctttgcaaaa aactgggtt ttctgagaac	120
acggacgggt cttagcaca aattgtgaaat ctgtgtaraa ccgggctttg caggggagat	180
aattttcctc ctctggagga aaggtgggtg ttgacaggca gggagacagt gacaaggcta	240
gagaaagcca cgctcggcct tctctgaacc aggatggaac ggcagacccc tgaaacgaa	300
gcttgtcccc ttccaatcag ccacttctga gaacccccat ctaacttctt actggaaaag	360
agggcctcct caggagcagt ccaagagttt tcaaagataa cgtgacaact accatctaga	420
ggaaagggtg caccctcagc agagaagccg agagcttaac tctggctggt tccagagaca	480
acctgctggc tgtcttggga tgcgcccagc ctttgagagg ccactacccc atgaacttct	540
gccatccact ggacatgaag ctgaggacac tgggcttcaa cactgagttg tcatgagagg	600
gacaggtctt gccctcaagc cggctgaggg cagcaaccac tctcctccc tttctcagc	660
aaagccattc ccacaaatcc agaccatacc atgaagcaac gagacccaaa cagtttggct	720
caagaggata tgaggactgt ctacgcctgg ctttgggctg acaccatgca cacacacaag	780
gtccacttct aggttttcag cctagatggg agtcgtgt	818

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228
 actggagaca ctgttgaact tgatcaagac ccagaccacc ccaggtctcc ttctgtgggat 60
 gtcattgacgt ttgacatacc tttggaacga gcctcctcct tggaagatgg aagaccgtgt 120
 tcgtggccga cctggcctct cctggcctgt ttcttaagat gcggagtcac atttcaatgg 180
 taggaaaagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga 240
 tgctcgggtgc acattgggtt gctttgggat aaaagattta tgagccaact attctctggc 300
 accagattct aggccagttt gttccactga agcttttccc acagcagtc acctctgcag 360
 gctggcagct gaattggctt cgggtggctc tgtggcaaga tcacactgag atcgatgggt 420
 gagaaggcta ggatgcttgt ctagtgttct tagctgtcac gttggctcct tccagggttg 480
 ccagacgggtg ttggccactc ccttctaaaa cacaggcgcc ctctgtgtga cagtgacccg 540
 ccgtggatag ccttggccca ttccagcagt cccagttatg catttcaagt ttggggtttg 600
 ttcttttctg taatgttctt ctgtgttgct atttctctgg ctaagcagca cactttcttt 660
 ttgggagatg tggaccagag atccactcct taagaaccag tggcgaaaga cactttcttt 720
 cttcactctg aagtagctgg tgggt 744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229
 cgagtctggg ttttgtctat aaagtttgat ccctcctttt ctcatccaaa tcatgtgaac 60
 cattacacat cgaaataaaa gaaagggtggc agacttgccc aacgccaggc tgacatgtgc 120
 tgcagggttg ttgtttttta attattattg tttagaaacgt caccacagct cctgtttaat 180
 ttgtatgtga cagccaactc tgagaagggtc ctatttttcc acctgcagag gatccagtct 240
 cactagggtc ctcttgccc tcacactgga gtctccgcca gtgtgggtgc ccactgacat 300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230
 cagcagaaca aatacaata tgaagagtgc aaagatctca taaaatctat gctgaggaat 60
 gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagctcagg 120
 caatataaag tcctggttca cactcaggaa cgagagctga cccagttaag ggagaagttg 180
 cggaaggga gagatgcctc cctctcattg aatgagcatc tccaggccct cctcactccg 240
 gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcgg ccgcgaccac 300
 g 301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231
 gcaagcacgc tggcaaactc ctgtcaggtc agctccagag aagccattag tcatttttagc 60
 caggaaactcc aagtccacat ccttggcaac tggggacttg cgcagggttag ccttgaggat 120
 ggcaacacgg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg 180
 tctgaggatg gcaggatcaa tgatgtcagg ccggttggtta ccgccaatga tgaacacatt 240
 tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcagc 300
 c 301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtatt tctgtgagaag ttcaacacca aaactggaac atagttctcc ttcaagtgtt 60
 ggcgacagcg gggcttcctg attctggaat ataactttgt gtaaattaac agccacctat 120
 agaagagtcc atctgctgtg aaggagagac agagaactct gggttccgtc gtcctgtcca 180
 cgtgctgtac caagtgtgtg tgccagcctg ttacctgttc tcaactgaaa tctggctaata 240
 gctcttgtgt atcacttctg attctgacaa tcaatcaatc aatggcctag agcactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgactgact tcccagtaag gctctctaag gggtaagtag gaggatccac aggatttgag 60
 atgctaaggc cccagagatc gtttgatcca accctcttat ttccagaggg gaaaatgggg 120
 cctagaagtt acagagcatc tagctggtgc gctggcacc cttggcctcac acagactccc 180
 gagtagctgg gactacaggg acacagtcac tgaagcaggc cctgttagca attctatgcg 240
 tacaatttaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatatgaat ttaaaaatta caagcaaaga 60
 cattttattc atcatgatgc tttcttttgt ttcttctttt cgttttcttc tttttctttt 120
 tcaatttcag caacataact ctcaatttct tcaggattta aaatcttgag ggattgatct 180
 cgccatcatga cagcaagttc aatgtttttg ccacctgact gaaccacttc caggagtgcc 240
 ttgatcacca gcttaatggt cagatcatct gttcaatgg cttcgtcagt atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235
 tggggctgtg catcaggcgg gtttgagaaa tattcaattc tcagcagaag ccagaatttg 60
 aattccctca tcttttaggg aatcatttac caggtttga gaggattcag acagctcagg 120
 tgctttcact aatgtctctg aacttctgtc cctctttgtt catggatagt ccaataaata 180
 atgttatctt tgaactgatg ctcataggag agaataaag aactctgagt gatatcaaca 240
 ttagggattc aaagaaatat tagatttaag ctacactgg tca 283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236
 aggtcctcca ccaactgcct gaagcacggt taaaattggg aagaagtata gtgcagcata 60
 aatactttta aatcgatcag atttccctaa cccacatgca atcttcttca ccagaagagg 120
 tcggagcagc atcatataa ccaagcagaa tgcgtaatat ataaatacaa tggatatag 180
 tgggtagacg gttcatgag tacagtgtac tgtggtatcg taatctggac ttgggttgta 240
 aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc 300
 a 301

<210> 237
 <211> 301

<212> DNA

<213> Homo sapien

<400> 237

cagtggtagt	ggtggtggac	gtggcggttg	tcgtggtgcc	ttttttggtg	cccgtcacaa	60
actcaatttt	tggtcgctcc	tttttgacct	tttccaattt	gtccatctca	attttctggg	120
ccttgggctaa	tgccatcatag	taggagtcct	cagaccagcc	atggggatca	aacatatacct	180
ttgggtagtt	ggtgccaaagc	tcgtcaatgg	cacagaatgg	atcagcttct	cgtaaatacta	240
gggttccgaa	attctttctt	cctttggata	atgtagttca	tatccattcc	ctcctttatc	300
t						301

<210> 238

<211> 301

<212> DNA

<213> Homo sapien

<400> 238

gggcagggtt	tttttttttt	ttttttgatg	gtgcagaccc	ttgctttatt	tgtctgactt	60
gttcacagtt	cagccccctg	ctcagaaaac	caacggggcca	gctaaggaga	ggaggaggca	120
ccttgagact	tccggagtcg	aggctctcca	gggttccccca	gcccataaat	cattttctgc	180
acccccctgcc	tgggaagcag	ctccctgggg	ggtgggaatg	ggtgactaga	agggatttca	240
gtgtgggacc	caggggtctgt	tcttcacagt	aggaggtgga	agggatgact	aattttctta	300
t						301

<210> 239

<211> 239

<212> DNA

<213> Homo sapien

<400> 239

ataagcagct	aggggaattct	ttatttagta	atgtcctaac	ataaaaagttc	acataactgc	60
ttctgtcaaa	ccatgatact	gagctttgtg	acaaccacga	aataactaag	agaaggcaaa	120
cataatacct	tagagatcaa	gaaacattta	cacagttcaa	ctgttttaaaa	atagctcaac	180
attcagccag	tgagtagagt	gtgaatgccca	gcatacacag	tatacaggtc	cttcaggga	239

<210> 240

<211> 300

<212> DNA

<213> Homo sapien

<400> 240

ggtcctaagt	aagcagcagc	ttccacattt	taacgcaggt	ttacgggtgat	actgtccttt	60
gggatctgcc	ctccagtggg	accttttaag	gaagaagtgg	gcccagcta	agttccacat	120
gctgggtgag	ccagatgact	tctgttcctt	ggtcactttc	ttcaatgggg	cgaatggggg	180
ctgccagggt	tttaaaatca	tgcttcatct	tgaagcacac	ggtcacttca	ccctcctcac	240
gctgtgggtg	tactttgatg	aaaataccca	ctttgttggc	ctttctgaag	ctataatgtc	300

<210> 241

<211> 301

<212> DNA

<213> Homo sapien

<400> 241

gaggtctggt	gctgaggtct	ctgggctagg	aagaggagtt	ctgtggagct	ggaagccaga	60
cctcttttga	ggaaactcca	gcagctatgt	tggtgtctct	gaggggaatgc	aacaaggctg	120
ctcctccatg	tattggaaaa	ctgcaaactg	gactcaactg	gaaggaagtg	ctgctgccag	180
tgtgaagaac	cagcctgagg	tgacagaaac	ggaagcaaac	aggaacagcc	agtcttttct	240
tcctcctcct	gtcatacggg	ctctctcaag	catcctttgt	tgtcaggggc	ctaaaaggga	300
g						301

<210> 242

<211> 301

<212> DNA

<213> Homo sapien

<400> 242

```

ccgagggtcct gggatgcaac caatcactct gtttcacgtg acttttatca ccatacaatt      60
tgtggcattt cctcattttc tacattgtag aatcaagagt gtaaataaat gtatatcgat      120
gtcttcaaga atatatcatt cctttttcac tagaaccat tcaaaatata agtcaagaat      180
cttaatatca acaaataat caagcaaact ggaaggcaga ataactacca taatttagta      240
taagtacca aagttttata aatcaaaage cctaatagata accattttta gaattcaatc      300
a                                                                                   301

```

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

```

aggtaagtcc cagtttgaag ctcaaaagat ctggtatgag cataggctca tcgacgacat      60
ggtggcccaa gctatgaaat cagagggagg cttcatctgg gcctgtaaaa actatgatgg      120
tgacgtgcag tcggactctg tggcccaagg gtatggctct ctcggcatga tgaccagcgt      180
gctggtttgt ccagatggca agacagtaga agcagaggct gccacggga ctgtaaccog      240
tcactaccgc atgttccaga aaggacagga gacgtccacc aatcccattg cttccatttt      300
t                                                                                   301

```

<210> 244

<211> 300

<212> DNA

<213> Homo sapien

<400> 244

```

gctggtttgc aagaatgaaa tgaatgattc tacagctagg acttaacctt gaaatggaaa      60
gtcatgcaat cccatttgca ggatctgtct gtgcacatgc ctctgtagag agcagcattc      120
ccaggacact tggaacacgt tgacactgta aggtgcttgc tccccaagac acatcctaaa      180
aggtgttgta atggtgaaaa cgtcttcctt ctttattgcc ctttcttatt tatgtgaaca      240
actgtttgtc ttttgtgtat cttttttaa ctgtaaagtt caattgtgaa aatgaatatc      300

```

<210> 245

<211> 301

<212> DNA

<213> Homo sapien

<400> 245

```

gtctgagtat ttaaaatggt attgaaatta tccccaacca atgttagaaa agaaagagg      60
tatatactta gataaaaaat gaggtgaatt actatccatt gaaatcatgc tcttagaatt      120
aaggccagga gatattgtca ttaatgtara cttcaggaca ctagagtata gcagccctat      180
gttttcaaag agcagagatg caattaaata ttgttttagca tcaaaaaggc cactcaatac      240
agctaataaa atgaaagacc taatttctaa agcaattcct tataattttac aaagttttaa      300
g                                                                                   301

```

<210> 246

<211> 301

<212> DNA

<213> Homo sapien

<400> 246

```

ggtctgtcct acaatgcctg cttcttgaaa gaagtcggca ctttctagaa tagctaaata      60
acctgggctt attttaaaga actatttgta gtcagattg gttttcctat ggctaaaata      120
agtgttctt gtgaaaatta aataaacag ttaattcaaa gccttgatat atgttaccac      180
taacaatcat actaaatata ttttgaagta caaagtttga catgctctaa agtgacaacc      240
caaatgtgtc ttacaaaaca cgttcctaac aaggtatgct ttacactacc aatgcagaaa      300
c                                                                                   301

```

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggctca tggatcagag ctcaaactgg agggaaaggc atttcgggta 60
 gcctaagagg gcgactggcg gcagcacaac caaggaaggc aaggttggtt cccccacgct 120
 gtgtcctgtg ttcaggtgcg acacacaatc ctcatgggaa caggatcacc catgcgctgc 180
 ccttgatgat caaggttggg gcttaagtgg attaaggag gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtca ggctctgtat ccctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttcggaagta caccctcact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa cttaagaatt 120
 acaggaagaa agtggtttgg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gcctgttggc aactccataa aaacatttca gattttaatc ccgaatttag 240
 ctaatgagac tggatttttg ttttttatgt tgtgtgtcgc agagctaaaa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcaacttggag 60
 ccctgacgct gctgttctcc ccgaaaaacc cgaccgacct ccgcgatctc cgtcccggcc 120
 ccagggagac acagcagtga ctacagagctg gtgcgacact gtgcctccct cctcaccgcc 180
 catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggatggaaag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgactttc ttagtcattt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggctgtggg aggcaagtga cccttaacac tacacttctc 60
 cttatcttta ttggcttgat aaacataatt atttctaaca ctagcttatt tccagttgcc 120
 cataagcaca tcagtacttt tctctggctg gaatagtaaa ctaaaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt attacatgat ttaaagacta 240
 caataaaacc aaacatgctt ataacattaa gaaaaacaat aaagatacat gattgaaacc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcatact ctccagggcc cctgcctcat 60
 agacaacctc atagagcata ggagaactgg ttgccttggg ggcaggggga ctgtctggat 120
 ggcaggggtc ctcaaaaatg ccactgtcac tgccaggaaa tgcttctgag cagtacacct 180
 cattgggatc aatgaaaagc ttcaagaaat cttcaggctc actctcttga aggccccgaa 240

cctctggagg ggggcagtgg aatcccagct ccaggacgga tcctgtcgaa aagatatacct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccaatc actctgtttc acgtgacttt tatcaccata caatttgttg catttcctca 60
ttttctacat tgtagaatca agagtgtaaa taaatgtata tcgatgtctt caagaatata 120
tcatttccttt ttacttagga acccattcaa aatataagtc aagaatotta atatcaacaa 180
atatatcaag caaactggaa ggcagaataa ctaccataat ttagtataag tacccaaagt 240
tttataaatc aaaagcccta atgataacca tttttagaat tcaatcatca ctgtagaatc 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgttatt ttgttgggtt ttgttccccc tccatctcga ttctcgtacc 60
caactaaaaa aaaaaaataa agaaaaaatg tgctgcgttc tgaaaaataa ctcccttagct 120
tggtctgatt gttttcagac cttaaaatat aaacttggtt cacaagcttt aatccatgtg 180
gatttttttt cttagagAAC cacaaaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtA ttcttcacat tttctccata ggaaaatgct ttttcccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttggg ggaggggcaa ggccagaggg ggtccaagtg cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttaaaccctg taaatgggaa caaaatcccc 120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa 180
gaaaaaaata aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcattaaaa aatagtgtct tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataaatat gtgcaaagtt tgacttggat 120
tggtgatttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg 180
aggaaaaagg actggagggt gaatctttat aaaaaacaag agtgattgag gcagattgta 240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaaccac cccaacacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 256

```

gttcagaaaa acattgaagg tggttccca aagtctaact agggataccc cctctagcct      60
aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc      120
acccccaaaa gcctggacac cttgagcaca cagttatgac caggacagac tcatctctat      180
aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatgggg gggcaagtgt      240
gtggcctctc ggctgggta gcaagaacat tcagggttagg cctaagttaan tcgtgttagt      300
t                                                                    301

```

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

```

gttggtggagg aactctgggt tgctcattaa gtctactga ttttactat cccctgaatt      60
tccccactta tttttgtctt tcaatatcgc aggccttaga agaggtctac ctgcctccag      120
tcttacctag tccagtctac cccctggagt tagaatggcc atcctgaagt gaaaagtaat      180
gtcacattac tcccttcagt gatttcttgt agaagtgcc atccctgaat gccaccaaga      240
tcttaattctt cacatcttta atcttatctc ttgactcct ctttacaccg gagaaggctc      300
c                                                                    301

```

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 258

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cagcagtagt agatgccgta tgccagcacg cccagcactc ccaggatcag caccagcacc      60
agggggcccag ccaccaggcg cagaagcaag ataaacagta gggtcaagac cagagccacc      120
cccaggggcaa caagaatcca ataccaggac tgggcaaat cttcaaagat cttaacactg      180
atgtctcggg cattgaggct gtcaataana cgctgatccc ctgctgtatg gtggtgtcat      240
tggtgatccc tgggagcgcc ggtggagtaa cgttggtcca tggaaagcag cgcccacaac      300
t                                                                    301

```

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 259

```

tcatatatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg      60
gtgtcctgaa gtgatttggg cccctgaggg cagacaccta agtaggaatc ccagtgggaa      120
gcaaagccat aaggaagccc aggattcctt gtgatcagga agtgggccag gaaggtctgt      180
tccagctcac atctcatctg catgcagcac ggaccggatg cgccactgg gtcttggctt      240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcatccttgg ctccaggtgg      300
c                                                                    301

```

<210> 260

<211> 301

<212> DNA

<213> Homo sapien

<400> 260

ttttttttct	ccctaaggaa	aaagaaggaa	caagtctcat	aaaaccaa	aagcaatggt	60
aaggtgtctt	aacttgaaaa	agattaggag	tcactgggtt	acaagttata	attgaatgaa	120
agaactgtaa	cagccacagt	tggccatttc	atgccaatgg	cagcaaaca	caggattaac	180
tagggcaaaa	taaataagt	tgtggaagcc	ctgataagt	cttaataaac	agactgattc	240
actgagacat	cagtacctgc	ccgggcggcc	gctcgagccg	aattctgcag	atatccatca	300
c						301

<210> 261

<211> 301

<212> DNA

<213> Homo sapien

<400> 261

aaatattcga	gcaaattcctg	taactaatgt	gtctccataa	aaggctttga	actcagtga	60
tctgcttcca	tccacgattc	tagcaatgac	ctctcggaca	tcaaagctcc	tcttaaggtt	120
agcaccaact	attccatata	attcatcagc	aggaaataaa	ggctcttcag	aagggttcaat	180
ggtgacatcc	aattttcttct	gataatttag	attcctcaca	accttcctag	ttaagtgaag	240
ggcatgatga	tcattccaaag	cccagtggtc	acttactcca	gactttctgc	aatgaagatc	300
a						301

<210> 262

<211> 301

<212> DNA

<213> Homo sapien

<400> 262

gaggagagcc	tgttacagca	tttgtaagca	cagaatactc	caggagtatt	tgtaattgtc	60
tgtgagcttc	ttgccgcaag	tctctcagaa	atttaaaaag	atgcaaattcc	ctgagtcacc	120
cctagacttc	ctaaaccaga	tcctctgggg	ctggaacctg	gcactctgca	tttgtaatga	180
gggctttctg	gtgcacacct	aattttgtgc	atctttgccc	taaatcctgg	attagtcccc	240
catcattacc	cccacattat	aatgggatag	attcagagca	gatactctcc	agcaaagaat	300
c						301

<210> 263

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 263

tttagcttgt	ggtaaatgac	tcacaaaact	gattttaaaa	tcaagttaat	gtgaattttg	60
aaaattacta	cttaatccta	attcacaata	acaatggcat	taaggtttga	cttgagttgg	120
ttcttagtat	tatttatggt	aataggctc	ttaccacttg	caaataactg	gccacatcat	180
taatgactga	cttcccagta	aggctctcta	aggggtaagt	angaggatcc	acaggatttg	240
agatgctaag	gccccagaga	tcgtttgatc	caaccctctt	attttcagag	gggaaaatgg	300
g						301

<210> 264

<211> 301

<212> DNA

<213> Homo sapien

<400> 264

aaagacgtta	aaccactcta	ctaccacttg	tggaactctc	aaagggtaaa	tgacaaascc	60
------------	------------	------------	------------	------------	------------	----

aatgaatgac	tctaaaaaca	atattttacat	ttaatgggtt	gtagacaata	aaaaaacaag	120
gtggatagat	ctagaattgt	aacattttta	gaaaaccata	scatttgaca	gatgagaaag	180
ctcaattata	gatgcaaagt	tataactaaa	ctactatagt	agtaaagaaa	tacatttcac	240
acccttcata	taaattcact	atcttggcct	gaggcactcc	ataaaatgta	tcacgtgcat	300
a						301

<210> 265
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 265	
tgcccaagtt atgtgtaagt gtatccgcac ccagaggtaa aactacactg tcatctttgt	60
cttcttgtga cgcagtattt cttctctggg gagaagccgg gaagtcttct cctggctcta	120
catattcttg gaagtctcta atcaactttt gtccatttg ttctatttct tcaggaggga	180
ttttcagttt gtcaacatgt tctctaacaa cacttgccca tttctgtaaa gaatccaaag	240
cagtccaagg ctttgacatg tcaacaacca gcataactag agtatccttc agagatacgg	300
c	301

<210> 266
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 266	
taccgtctgc ctttccctcc atccaggcca tctgcgaatc tacatgggtc ctctatttgc	60
acaccagatc actctttcct ctaccacacag gcttgctatg agcaagagac acaacctcct	120
ctcttctgtg ttccagcttc ttttccctgtt cttcccaccc ctttaagttct attcctgggg	180
atagagacac caatacccat aacctctctc ctaagcctcc ttataaccca ggggtgcacag	240
cacagactcc tgacaactgg taaggccaat gaactgggag ctcacagctg gctgtgcctg	300
a	301

<210> 267
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 267	
aaagagcaca ggccagctca gcctgccctg gccatctaga ctcagcctgg ctccatgggg	60
gttctcagtg ctgagtcctat ccaggaaaag ctcacctaga ctttctgagg ctgaatcttc	120
atcctcacag gcagcttctg agagcctgat attcctagcc ttgatggctc ggagtaaagc	180
ctcattctga ttccctctct tcttttcttt caagttggct ttctcacat cctctgttc	240
aattcgcttc agcttgtctg ctttagccct catttccaga agcttcttct ctttggcatc	300
t	301

<210> 268
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 268	
aatgtctcac tcaactactt cccagcctac cgtggcctaa ttctgggagt tttcttctta	60
gatcttggga gagctgggtc ttctaaggag aaggaggaag gacagatgta actttggatc	120
tcgaagagga agtctaattg aagtaattag tcaacgggtc ttgttttagac tcttggata	180
tgctgggtgg ctcaagtggc ctttttggag aaagcaagta ttattcttaa ggagtaacca	240
cttcccatg ttctactttc taccatcatc aattgtatat tatgtattct ttggagaact	300
a	301

<210> 269
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 269

taacaatata	cactagctat	ctttttaact	gtccatcatt	agcaccaatg	aagattcaat	60
aaaattacct	ttattcacac	atctcaaaac	aattctgcaa	attcttagtg	aagtttaact	120
atagtcacag	accttaaata	ttcacattgt	tttctatgtc	tactgaaaat	aagttcacta	180
cttttctgga	tattctttac	aaaatcctat	taaaattcct	ggtattatca	cccccaatta	240
tacagtagca	caaccacctt	atgtagtttt	tacatgatag	ctctgtagaa	gtttcacatc	300
t						301

<210> 270

<211> 301

<212> DNA

<213> Homo sapien

<400> 270

cattgaagag	cttttgcgaa	acatcagaac	acaagtgcct	ataaaaattaa	ttaagcctta	60
cacaagaata	catattcctt	ttattttctaa	ggagttaaac	atagatgtag	ctgatgtgga	120
gagcttgctg	gtgcagtgcg	tattggataa	cactattcat	ggccgaattg	atcaagtcaa	180
ccaactcctt	gaactggatc	atcagaagaa	gggtggtgca	cgatatactg	cactagataa	240
tggaccaacc	aactaaattc	tctcaccagg	ctgtatcagt	aaactggctt	aacagaaaac	300
a						301

<210> 271

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 271

aaaagggttct	cataagatta	acaattttaa	taaatatttg	atagaacatt	ctttctcatt	60
tttatagctc	atcttttagg	ttgatattca	gttcgatgct	cccttgctgt	tcttgatcca	120
gaattgcaat	cacttcatca	gcctgtattc	gtcccaattc	tctataaagt	gggtccaagg	180
tgaaccacag	agccacagca	cacctctttc	ccttggtgac	tgccttcacc	ccatganggt	240
tctctcctcc	agatganaac	tgatcatgcg	cccacatttt	gggttttata	gaagcagtca	300
c						301

<210> 272

<211> 301

<212> DNA

<213> Homo sapien

<400> 272

taaattgcta	agccacagat	aacaccaatc	aaatggaaca	aatcactgtc	ttcaaagtgc	60
ttatcagaaa	accaaagtag	cctggaatct	tcataatacc	taaacatgcc	gtatttagga	120
tccaataatt	ccctcatgat	gagcaagaaa	aattctttgc	gcacccctcc	tgcattccaca	180
gcattctctc	caacaaatat	aaccttgagt	ggcttcttgt	aatctatggt	ctttgttttc	240
ctaaggactt	ccattgcata	tctacaata	ttttctctac	gcaccactag	aattaagcag	300
g						301

<210> 273

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 273
 acatgtgtgt atgtgtatct ttgggaaaan aanaagacat cttgtttayt attttttttg 60
 agagangctg ggacatggat aatcacwtaa tttgctayta tyactttaat ctgactygaa 120
 gaaccgtcta aaaataaaaat ttaccatgtc dtatatccct tatagtatgc ttatttcacc 180
 ttytttctgt ccagagagag tatcagtgac ananatttma gggggaamac atgmattggt 240
 gggacttnty ttacngagm accctgcccg sgcgccctcg makengantt ccgcsananc 300
 t 301

<210> 274
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 274
 cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg 60
 aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa 120
 tgattctctt tggaatctga atgagatcaa gaggccagct ttagcttggt gaaaagtcca 180
 tctaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc 240
 aattgtgctt cttttgataa gaagctttct tggtcatatc aggaaattcc aganaaagtc 300
 c 301

<210> 275
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 275
 tcgggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaacc acagaaaatg 60
 ggggtgaaatt ggccaacttt ctattaactt atgttggcaa ttttgccacc aacagtaagc 120
 tggcccttct aataaaaagaa aattgaaagg tttctcacta aacggaatta agtagtggag 180
 tcaagagact ccagggcctc agcgtacctg ccggggcggc cgctcgaagc cgaattctgc 240
 agatatccat cacactggcg gncgctcgan catgcatcta gaaggnccaa ttcgccctat 300
 a 301

<210> 276
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 276
 tgtacacata ctcaataaat aatgactgc attgtggtat tattactata ctgattatat 60
 ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120
 taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180
 caatacattt aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240
 aaaactattc agtatgtttc ccttgcttca tgtctgagaa ggctctcctt caatggggat 300
 g 301

<210> 277
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 277
 tttgttgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaat ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcccc aacctgctct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt anggtgtgcag tgcgttctga 240
 gttcncctgc gattacatct gaccagtctc ctttttccga agtcctntccg ttcaatcttg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 278
 taccactaca ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacatatcaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttgtca 120
 cagtctctac tgttattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcatgtgtgc tcacaatgtt ctggcactat tataagtgtc tcacagggtt 240
 tatgtgttct tcgtaacttt atggantagg tactcggccg cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 279
 aaagcaggaa tgacaaagct tgcttttctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttcacaaagc 120
 ttagaccttt accttccagc caccacacag tgcttgatat ttcagagtca gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaanaanaa atatttctag ggagcactac 240
 catctgtttt cacatgaaat gccacacaca tagaactcca acatcaattt cattgcacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtactggag ttttctccc ctgtgaaaac gtaactactg ttgggagtga attgaggatg 60
 tagaaagggt gtggaaccaa attgtggtca atggaaatag gagaatatgg ttctcactct 120
 tgagaaaaaa acctaaagatt agcccaggta gttgcctgta acttcagttt ttctgcctgg 180
 gtttgatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
 t 301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 aggtacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttggatattc 60
 gccgagcaat ccaaatcctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tcgggttata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata acccgattt gtgtgtcatg tttgcatttc 240
 tgacaagtga aacaggatct tacgatggag ttttgtatga aaacaaagt gacgtacctc 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 caggtactac agaattaaaa tactgacaag caagtagttt cttggcgtgc acgaattgca 60
 tccagaaccc aaaaattaag aaattcaaaa agacattttg tgggcacctg ctgacacaga 120
 agcgcagaag caaagcccag gcagaacct gctaaccctta cagctcagcc tgcacagaag 180
 cgcagaagca aagcccaggc agaaccatgc taaccttaca gctcagcctg cacagaagcg 240
 cagaagcaaa gccccaggcag aacatgctaa ccttacagct cagcctgcac agaagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatac ggcagacaaa ctttatarag tgtagagagg tgagcgaaag gatgcaaaag 60
 cactttgagg gctttataat aatatgctgc ttgaaaaaaa aaatgtgtag ttgatactca 120
 gtgcattctc agacatagta aggggttgct ctgaccaatc aggtgatcat tttttctatc 180
 acttcccagg ttttatgcaa aaattttgtt aaattctata atggtgatat gcattcttta 240
 ggaaacatat acatttttaa aaatctattt tatgtaagaa ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 caggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggtctt tatttaacttt 60
 gcttcgtgtg tgggcaaagc aacatcttcc cttaaataat attaccaaga aaagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg ccaaaagggg gctgacctgg agcagagcat 180
 ggtgagaggc aaggcatgag agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtaa aagaaaacaa agttcattga tgtcgaagga tatatacagt gttagaattt 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 285
 acatcaccat gatcggatcc cccacccatt atacgttgta tgtttacata aatactcttc 60
 aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcatccc aatctctaac 120
 caggaaagca aatgctatct acagacctgc aagccctccc tcaaacnaaa ctatttctgg 180
 attaaatatg tctgacttct tttgaggta cagcactagg caaatgctat ttacgatctg 240
 caaaagctgt ttgaagagtc aaagcccca tgtgaacacg atttctggac cctgtaacag 300
 t 301

<210> 286
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 286
 taccactgca ttccagcctg ggtgacagag tgagactccg tctccaaaaa aaactttgct 60
 tgtatattat ttttgcccta cagtggatca ttctagtagg aaaggacagt aagatttttt 120
 atcaaaatgt gtcatgccag taagagatgt tatattcttt tctcatttct tccccacca 180
 aaaataagct accatatagc ttataagtct caaatttttg ctttttacta aaatgtgatt 240
 gtttctgttc attgtgtatg cttcatcacc tatattaggc aaattccatt ttttcccttg 300
 t 301

<210> 287
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 287
 tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg 60
 cccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg 120
 aaatgatttg gttatgaacg cacagttagg gcagcagggc cagaatcctg accctctgcc 180
 ccgtgggtat ctctctccca gcttggctgc ctcatgttat cacagtattc cattttggtt 240
 gttgcatgtc ttgtgaagcc atcaagattt tctcgtctgt tttcctctca ttggtaatgc 300
 t 301

<210> 288
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 288
 gtacacctaa ctgcaaggac agctgaggaa tgtaattggc agccgctttt aaagaagtag 60
 agtcaatagg aagacaaatt ccagttccag ctcatctggg gtatctgcaa agctgcaaaa 120
 gatctttaa gacaatttca agagaatatt tccttaaagt tggcaatttg gagatcatac 180
 aaaagcatct gcttttgtga ttttaatttag ctcatctggc cactggaaga atccaaacag 240
 tctgccttaa ttttgatga atgcatgatg gaaattcaat aatttagaaa gttaaaaaaa 300
 a 301

<210> 289
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 289
 ggtacactgt ttccatgtta tgtttctaca cattgctacc tcagtgtctc tggaaactta 60
 gcttttgatg tctccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg 120
 ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgacttaa 180

cgttctataa atgaatgtgc tgaagcaaag tgcccatggt ggcggcgaan aagagaaaga 240
 tgtgttttgt tttggactct ctgtggtccc ttccaatgct gtgggtttcc aaccagnnga 300
 a 301

<210> 290
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 290
 acactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac 60
 tgactgatct gttcatttct ctcacagctc ttaccccaa aagcttttcc accctaagtg 120
 ttctgacctc cttttctaata cacagtaggg atagaggcag anccacctac aatgaacatg 180
 gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctgacagtgc 240
 tgccttgaac aaaaacattt ctccatgtct ctttttcttc atgcctcaag taacagttag 300
 a 301

<210> 291
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 291
 caggtaccaaa tttcttctat cctagaaaca tttcatttta tgttgttgaa acataacaac 60
 tatatcagct agattttttt tctatgcttt acctgctatg gaaaatttga cacattctgc 120
 tttactcttt tgtttatagg tgaatcacaa aatgtatttt tatgtattct gtagttcaat 180
 agccatggct gtttacttca ttttaatttt ttagcataaa gacattatga aaaggcctaa 240
 acatgagctt cacttcccc ctaactaatt agcatctggt atttcttaac cgtaatgcct 300
 a 301

<210> 292
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 292
 accttttagt agtaatgtct aataataaat aagaaatcaa ttttataagg tccatatagc 60
 tgtattaaat aatttttaag tttaaaagat aaaataccat catttttaaat gttggtattc 120
 aaaaccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgcnagatg 180
 ggaaatatag tasttyatga atgttnatta aattccagtt ataatagtgg ctacacactc 240
 tcactacaca cacagacccc acagtcctat atgccacaaa cacatttcca taacttgaaa 300
 a 301

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccaagt gctggtgccg gctgttacc tgttctcact gaaaagtctg gctaagtctc 60
 ttgtgtagtc acttctgatt ctgacaatca atcaatcaat ggcctagagc actgactgtt 120
 aacacaaaacg tcactagcaa agtagcaaca gctttaagtc taaatacaaa gctgttctgt 180

gtgagaattt tttaaaaggc tacttgtata ataacccttg tcatttttaa tgtacctcgg 240
 ccgcgaccac gctaagccga attctgcaga tatccatcac actggcggcc gctcgagcat 300
 g 301

<210> 294
 <211> 301
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 294
 tgacccataa caatatacac tagctatctt tttactgtc catcattagc accaatgaag 60
 attcaataaa attaccttta ttcacacatc tcaaaacaat tctgcaaatt cttagtgaag 120
 tttactata gtcacaganc ttaaatttc acattgtttt ctatgtctac tgaaaataag 180
 ttcactactt ttctgggata ttctttacaa aatcttatta aaattcctgg tattatcacc 240
 cccaattata cagtagcaca accaccttat gtagttttta catgatagct ctgtagaggt 300
 t 301

<210> 295
 <211> 305
 <212> DNA
 <213> Homo sapien

<400> 295
 gtactctttt tctcccttcc tctgaattta attctttcaa cttgcaattt gcaaggatta 60
 cacatttcac tgtgatgtat attgtgttgc aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttgtg aatccatctt gctttttccc cattgggaact agtcattaac ccattctctga 180
 actggtagaa aaacrtctga agagctagtc tatcagcatc tgacaggtga attggatggt. 240
 ttcagaacc atttcaccca gacagcctgt ttctatcctg ttttaataaat tagtttgggt 300
 tctct 305

<210> 296
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 296
 aggtactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct 60
 cacctagtag taaactaaaa ataaactgaa actttatgga atctgaagtt attttccttg 120
 attaaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac 180
 tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt 240
 tgtcattact ataaatttta aaatctgtta ataagatggc ctatagggag gaaaaagggg 300
 c 301

<210> 297
 <211> 300
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(300)
 <223> n = A,T,C or G

<400> 297
 actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta 60
 aaggttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga 120
 acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt 180

tccatcattg	ggagtgcact	ggccatccct	caaaatttgt	ctgggctggc	ctgagtggtc	240
accgcacctc	ggccgcgacc	acgctaagcc	gaattctgca	gatatccatc	acactggcgg	300

<210> 298
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 298						
tatgggggttt	gtcaccctaaa	agctgatgct	gagaaaggcc	tccctggggc	ccctcccgcg	60
ggcatctgag	agacctgggtg	ttccagtgtt	tctggaaatg	ggtcccagtg	ccgccggctg	120
tgaagctctc	agatcaatca	cgggaagggc	ctggcggtgg	tggccacctg	gaaccaccct	180
gtcctgtctg	tttacatttc	actaycaggt	tttctctggg	cattacnatt	tgttccccta	240
caacagtgc	ctgtgcattc	tgctgtggcc	tgctgtgtct	gcaggtggct	ctcagcgagg	300
t						301

<210> 299
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 299						
gttttgagac	ggagtttcac	tcttggtgcc	cagactggac	tgcaatggca	gggtctctgc	60
tcactgcacc	ctctgcctcc	caggttcgag	caattctcct	gcctcagcct	cccaggtagc	120
tgggattgca	ggctcacgcc	accataccca	gctaattttt	ttgtattttt	agtagagacg	180
gagtttcgcc	atggttgcca	gctgggtctc	aaactcctgac	ctcaagcgac	ctgcctgcct	240
cggcctccca	aagtgctgga	attataggca	tgagtcaaca	cgccccagcct	aaagatattt	300
t						301

<210> 300
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 300						
attcagtttt	atttgctgcc	ccagtatctg	taaccaggag	tgccacaaaa	tcttgccaga	60
tatgtccac	accactggg	aaaggctccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaatt	agtttacta	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgccccacc	gtcttgttac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atccccagcg	catcccccat	300
g						301

<210> 301
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 301						
ttaaattttt	gagaggataa	aaaggacaaa	taatctagaa	atgtgtcttc	ttcagtctgc	60
agaggacccc	aggtctccaa	gcaaccacat	ggtcaagggc	atgaataatt	aaaagtgtgt	120
gggaactcac	aaagaccctc	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacaccac	aacagtggga	gtcacaaaag	accctcagag	ctgagacacc	240
cacaacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

<210> 302
 <211> 301

<212> DNA

<213> Homo sapien

<400> 302

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aggtacacat ttagcttggt gtaaagtact cacaaaactg attttaaaat caagttaatg      60
tgaattttga aaattactac ttaatcctaa ttcacaataa caatggcatt aagggttgac      120
ttgagttggt tcttagtatt atttatggta aataggctct taccacttgc aaataactgg      180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca      240
caggatttga gatgctaagg ccccagagat cgtttgatcc aaccctctta ttttcagagg      300
g                                                                 301

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<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

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aggtaccaac tgtggaaata ggtagaggat cattttttct ttccatatca actaagttgt      60
atattgtttt ttgacagttt aacacatctt cttctgtcag agattctttc acaatagcac      120
tggctaattg aactaccgct tgcattgtta aaatgggtgt ttgtgaaatg atcataggcc      180
agtaacgggt atgtttttct aactgatctt ttgctcgttc caaagggacc tcaagacttc      240
catcgatttt atatctgggg tctagaaaag gagttaatct gttttccctc ataaattcac      300
c                                                                 301

```

<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

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acatggatgt tattttgcag actgtcaacc tgaatttgta tttgcttgac attgcctaatt      60
tattagtttc agtttcagct taccactttt ttgtctgcaa catgcaraas agacagtgcc      120
cttttttagtg tatcatatca ggaatcatct cacattgggt ttgtgccatta ctgggtgcagt      180
gactttcagc cacttgggta aggtggagtt ggccatatgt ctccactgca aaattactga      240
ttttcctttt gtaattaata agtgtgtgtg tgaagattct ttgagatgag gtatataatct      300
c                                                                 301

```

<210> 305

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 305

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gangtacagc gtggtcaagg taacaagaag aaaaaaatgt gagtggcatc ctgggatgag      60
cagggggaca gacctggaca gacacgttgt catttgctgc tgtgggtagg aaaatgggag      120
taaaggagga gaaacagata caaatctccc aactcagtat taaggatttc tcatgcctag      180
aatattggta gaaacaagaa tacattcata tggcaataa ctaaccatgg tggaacaaaa      240
ttctgggatt taagttggat accaangaaa ttgtattaaa agagctgttc atggaataag      300
a                                                                 301

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<210> 306

<211> 8

<212> PRT

<213> Homo sapien

<400> 306

Val Leu Gly Trp Val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307
 acagggratg aagggaaagg gagaggatga ggaagccccc ctggggattt ggtttggtcc 60
 ttgtgatcag gtggtctatg gggcttatcc ctacaaagaa gaatccagaa ataggggcac 120
 attgaggaat gatacttgag cccaaagagc attcaatcat tgttttatatt gccttmtttt 180
 cacaccattg gtgagggagg gattaccacc ctgggggttat gaagatgggt gaacacccca 240
 cacatagcac cggagatatg agatcaacag tttcttagcc atagagattc acagcccaga 300
 gcaggaggac gcttgacac catgcaggat gacatggggg atgcgctcgg gattgggtgtg 360
 aagaagcaag gactgttaga ggcaggcttt atagtaacaa gacggtgggg caaactctga 420
 tttccgtggg ggaatgtcat ggtcttgctt tactaagttt tgagactggc aggtagtga 480
 actcattagg ctgagaacct tgtggaatgc acttgaccca sctgatatag gaagtagcca 540
 ggtgggagcc tttccagtg ggtgtgggac atatctggca agattttgtg gcactcctgg 600
 ttacagatac tggggcagca aataaaaactg aatcttg 637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(647)
 <223> n = A,T,C or G

<400> 308
 acgattttca ttatcatgta aatcgggtca ctcaaggggc caaccacagc tgggagccac 60
 tgctcagggg aaggttcata tgggactttc tactgcccac ggttctatac aggatataaa 120
 ggngcctcac agtatagatc tggtagcaaa gaagaagaaa caaacactga tctctttctg 180
 ccacccctct gacccttttg aactcctctg accctttaga acaagcctac ctaatatctg 240
 ctagagaaaa gaccaacaac ggcctcaaag gatctcttac catgaaggtc tcagctaatt 300
 cttgggtaag atgtgggttc cacattaggt tctgaatatg ggggggaagg tcaatttgct 360
 catttttgtgt gtggataaag tcaggatgcc cagggggccag agcagggggc tgcttgcttt 420
 gggacaatg gctgagcata taaccatagg ttatggggaa caaaacaaca tcaaagtcac 480
 tgtatcaatt gccatgaaga cttgagggac ctgaatctac cgattcatct taaggcagca 540
 ggaccagttt gagtggcaac aatgcagcag cagaatcaat ggaaacaaca gaatgattgc 600
 aatgtccttt tttttctcct gcttctgact tgataaaagg ggaccgt 647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309
 actttatagt ttaggctgga cattggaaaa aaaaaaagc cagaacaaca tgtgatagat 60
 aatatgattg gctgcacact tccagactga tgaatgatga acgtgatgga ctattgtatg 120
 gagcacatct tcagcaagag ggggaaatac tcatcatttt tggccagcag ttgtttgatc 180
 accaaacatc atgccagaat actcagcaaa ctttcttagc tcttgagaag tcaaagtccg 240
 ggggaattta ttcctggcaa tttaatttg actccttatg tgagagcagc ggctacccag 300
 ctgggggtgtt ggagcgaacc cgtcactagt ggacatgcag tggcagagct cctggttaacc 360
 acctagagga atacacaggc acatgtgtga tgccaagcgt gacacctgta gcactcaaat 420
 ttgtcttggt tttgtctttc ggtgtgtaag attcttaagt 460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

<400> 310
acgggactta tcaaataaag ataggaaaag aagaaaactc aaatattata ggcagaaatg 60
ctaaagggtt taaaatatgt caggattgga agaaggcatg gataaagaac aaagttcagt 120
taggaaagag aaacacagaa ggaagagaca caataaaagt cattatgtat tctgtgagaa 180
gtcagacagt aagatttgtg ggaaatgggt tggtttgttg tatggtagat atttttagcaa 240
taatctttat ggcagagaaa gctaaaatcc tttagcttgc gtgaatgatc acttgctgaa 300
ttcctcaagg taggcatgat gaaggagggt ttagaggaga cacagacaca atgaactgac 360
ctagatagaa agccttagta tactcagcta ggaatagtga ttctgagggc acactgtgac 420
atgattatgt cattacatgt atggtagtga tggggatgat aggaaggaag aacttatggc 480
atattttcac cccacaaaaa gtcagttaaa tattgggaca ctaaccatcc aggtcaaga 539

<210> 311
<211> 526
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(526)
<223> n = A,T,C or G

<400> 311
caaatttgag ccaatgacat agaattttac aaatcaagaa gcttattctg gggccatttc 60
ttttgacgtt ttctctaaac tactaaagag gcattaatga tccataaatt atattatcta 120
catttacagc atttaaaatg tggtcagcat gaaatattag ctacagggga agctaaataa 180
attaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg 240
tttttcacaa gtgaagcatt cttataaagt gtcataacct ttttggggaa actatgggaa 300
aaaatgggga aactctgaag ggttttaagt atcttacctg aagctacaga ctccataacc 360
tctctttaca gggagctcct gcagccccta cagaaatgag tggctgagat tcttgattgc 420
acagcaagag cttctcatct aaacccttcc cctttttagt atctgtgtat caagtataaa 480
agttctataa actgtagtnt acttatttta atccccaaag cacagt 526

<210> 312
<211> 500
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(500)
<223> n = A,T,C or G

<400> 312
cctctctctc cccacccctt gactctagag aactgggttt tctcccagta ctccagcaat 60
tcatttctga aagcagttga gccactttat tccaaagtac actgcagatg ttcaaactct 120
ccatttctct ttcccttcca cctgccagtt ttgctgactc tcaacttgtc atgagtgtaa 180
gcattaagga cattatgctt cttcgattct gaagacaggc cctgctcatg gatgactctg 240
gcttcttagg aaaatatttt tcttccaaaa tcagtaggaa atctaaactt atccccctct 300
tgcagatgtc tagcagcttc agacatttgg ttaagaacct atgggaaaaa aaaaaatcct 360
tgctaattgt gtttcccttg taaaccanga ttcttatttg nctggtagat aatatcagct 420
ctgaacgtgt ggtaaagatt tttgtgtttg aatataggag aaatcagttt gctgaaaagt 480
tagtcttaat tatctattgg 500

<210> 313
<211> 718
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(718)

<223> n = A,T,C or G

<400> 313

ggagatttgt	gtggtttgca	gccgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gaggtgagaa	ataagaaagg	ctgctgactt	taccatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtacat	gtttttgcac	atttccagcc	cttttaaata	tccacacaca	caggaagcac	240
aaaaggaagc	acagagatcc	ctgggagaaa	tgcccggccg	ccatcttggg	tcacgatga	300
gcctcgccct	gtgcctgntc	ccgcttgtga	gggaaggaca	ttagaaaatg	aattgatgtg	360
ttccttaaag	gatggcagga	aaacagatcc	tggtgtggat	atttatttga	acgggattac	420
agatttgaaa	tgaagtcaca	aagtgagcat	taccaatgag	aggaaaacag	acgagaaaat	480
cttgatggtt	cacaagacat	gcaacaaaca	aaatggaata	ctgtgatgac	acgagcagcc	540
aactggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcatttcta	tttctaccct	caaacaagct	gtngaatatc	tgacttacgg	660
ttcttntggc	ccacattttc	atnatccacc	ccntcntttt	aannttantic	caaantgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttattttac	attacagaaa	aaacatcaag	acaatgtata	ctattttcaaa	tatatccata	60
cataatcaaaa	tatagctgta	gtacatgttt	tcattgggtg	agattaccac	aatgcaagg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gctctcggtg	gtccagccac	tgtgaaacat	gtccctttta	gattaacctc	gtggacgctc	240
ttgttggtatt	gctgaactgt	agtgcctgtg	atthtgcctc	tgtctgtgaa	ttctgttgct	300
tctggggcat	ttccttgtga	tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacctcc	ccgctggcac	tgatgagccg	catcaccatg	gtcaccagca	ccatgaaggc	60
ataggtgatg	atgaggacat	ggaatgggcc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gacccccatt	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccagc	tccccgacca	gccggatata	gtccttaggg	gtcatgtagg	cttctctgaag	240
tagctttctg	tgtaagaggg	tggtgtcccg	ggggctcggt	cggttattgg	tcctgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca	agactcttac	gccccacact	gcaatttgggt	cttggttgcg	tatccattta	60
tgtgggcctt	tctcgagttt	ctgattataa	acaccactgg	agcgatgtgt	tgactggact	120
cattcaggga	gctctgggtg	caatattagt	t			151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagtg	gacctaata	aaatacctga	aacatatatt	ggcattttatc	aatggctcaa	60
atcttcattt	atctctggcc	ttaccctgg	ctcctgaggc	tgcggccagc	agatcccagg	120
ccagggctct	gttcttgcca	cacctgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtggga ggcgctgttt agttggctgt tttcagaggg gtctttcggga gggacctcct 60
 gctgcaggct ggagtgcttt tattcctggc gggagaccgc acattccact gctgaggctg 120
 tgggggcggg ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtggga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtggg a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtggga tccactagtc cagtgtgggt gaattccatt gtgttggggg tctagatcgc 60
 gageggctgc cttttttttt tttttttttg ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagcttacag taaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaactttg tttttcatcc aggttatattt aggcttagga tttcctctca cactgcagtt 60
 tagggtgga ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
 tgcctctgag aaatcaaagt cttcatacac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(151)
 <223> n = A,T,C or G

<400> 322
 atccagcatc ttctcctgtt tcttgccctc ctttttcttc ttcttasatt ctgcttgagg 60
 tttgggcttg gtcagtgtgc cacagggtt ggagatgggt acagtcttct ggcattcggc 120
 attgtgcagg gctcgttca nacttcagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...(151)

<223> n = A,T,C or G

<400> 323

tgaggacttg tktttttttt ctttattttt aatcctctta ckttgtaa	60
nagactcant tactaccag tttgtggtt twtgggagaa atgtaactgg acagttagct	120
gttcaatyaa aaagacactt ancccatgtg g	151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(461)

<223> n = A,T,C or G

<400> 324

acctgtgtgg aatttcagct ttcctcatgc aaaaggattt tgtatccccg gcctacttga	60
agaagtggtc agctaaagga atccagggtg ttggttggac tgtaataacc tttgatgaaa	120
agagttacta cgaatcccat cttgggtcca gctatatcac tgacagcatg gtagaagact	180
gcgaacctca cttctagact ttcacgggtg gacgaaacgg gttcagaaac tgccaggggc	240
ctcatacagg gatatacaaaa taccctttgt gctaccagg ccctggggaa tcaggtgact	300
cacacaaatg caatagtgtg tcaactgcatt tttacctgaa ccaaagctaa acccggtgtt	360
gccaccatgc accatggcat gccagagttc aacactgttg ctcttgaaaa ttgggtctga	420
aaaaacgcac aagagcccct gccctgccct agctgangca c	461

<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

acactgtttc catgttatgt ttctacacat tgctacctca gtgctcctgg aaacttagct	60
tttgatgtct ccaagtagtc caccttcatt taactctttg aaactgtatc atctttgcc	120
agtaagagtg gtggcctatt tcagctgctt tgacaaaatg actggctcct gacttaacgt	180
tctataaatg aatgtgctga agcaaagtgc ccatgggtggc ggcgaaagaag agaaagatgt	240
gttttgtttt ggactctctg tggctccctc caatgctgtg gggtttccaac caggggaagg	300
gtcccttttg cattgccaaag tgccataacc atgagcacta cgctaccatg gttctgcctc	360
ctggccaagc aggtgtgttt gcaagaatga aatgaatgat	400

<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

ggaggactgc agcccgcact cgcagccctg gcaggcggca ctggtcatgg aaaacgaatt	60
gttctgctcg ggcgtcctgg tgcattccgca gtgggtgctg tcagccgcac actgtttcca	120
gaactcctac accatcgggc tgggcctgca cagtcttgag gccgaccaag agccaggag	180
ccagatgggtg gaggccagcc tctccgtacg gcacccagag tacaacagac ccttgctcgc	240
taacgacctc atgctcatca agttggacga atccgtgtcc gagtctgaca ccatccggag	300
catcagcatt gcttcgcagt gccctaccgc ggggaactct tgcctcgttt ctggctgggg	360
tctgtctggcg aacggcagaa tgcctaccgt gctgcagtgc gtgaacgtgt cgggtgtgtc	420
tgaggaggtc tgcagtaagc tctatgacc cggtgactct cccagcatgt tctgcgccgg	480
cggaggggcaa gaccagaagg actcctgcaa ggggggcccc tgatctgcaa	540
cgggtacttg cagggccttg tgtctttcgg aaaagccccg tgtggccaag ttggcgtgcc	600
aggtgtctac accaacctct gcaaattcac tgagtggata gagaaaaccg tccaggccag	660
ttaactctgg ggactgggaa cccatgaaat tgacccccaa atacatcctg cggaaggaat	720
tcaggaatat ctgttcccag cccctcctcc ctcaggccca ggagtccagg cccccagccc	780
ctcctccctc aaaccaaggg tacagatccc cagcccctcc tccctcagac ccaggagtcc	840

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agacccccca gcccctcctc cctcagaccc aggagtccag cccctcctcc ctcagaccca      900
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<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

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<400> 327
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Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35     40     45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50     55     60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65     70     75     80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85     90     95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100    105    110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115    120    125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130    135    140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145    150    155    160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165    170    175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180    185    190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195    200    205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210    215    220

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<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

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<400> 328
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atccgcagtg ggtgctgtca gccacacact gtttcagaa ctcctacacc atcgggctgg      180
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<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

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<400> 329
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1      5      10      15

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 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
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<210> 331
 <211> 22
 <212> PRT
 <213> Homo sapien

<400> 331
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 Val Ser Gly Ser Cys Ser
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<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
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<210> 333
 <211> 3030
 <212> DNA
 <213> Homo sapien

<400> 333

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<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

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<211> 2984

<212> DNA

<213> Homo sapien

<400> 335

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tccctcctc	tgaatttaat	tctttcaact	tgcaatttgc	aaggattaca	catttcaactg	2580
tgatgtatat	tgtgttgcaa	aaaaaaaaaa	aagtgtcttt	gtttaaaatt	acttggtttg	2640
tgaatccatc	ttgctttttc	cccattggaa	ctagtcatta	acccatctct	gaactggtag	2700
aaaaacatct	gaagagctag	tctatcagca	tctgacaggt	gaattggatg	gttctcagaa	2760
ccatttcacc	cagacagcct	gtttctatcc	tgtttaataa	attagtttgg	gttctctaca	2820
tcataacaa	accctgtctc	aatctgtcac	ataaaagtct	gtgacttgaa	gtttagtcag	2880
cacccccacc	aaactttatt	tttctatgtg	tttttgcaca	catatgagtg	ttttgaaaat	2940
aaagtaccca	tgtctttatt	agaaaaaaaa	aaaaaaaaaa	aaaa		2984

<210> 336

<211> 147

<212> PRT

<213> Homo sapien

<400> 336

Pro Ser Phe Pro Thr Leu Leu Ser Arg Arg His Leu Gly Ser Tyr Leu

102

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1           5           10           15
Leu Asp Ser Glu Asn Thr Ser Gly Ala Leu Pro Arg Leu Pro Gln Thr
20           25           30
Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
35           40           45
Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
50           55           60
Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
65           70           75           80
Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
85           90           95
Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
100          105          110
Leu Lys Glu Glu Ala Phe Ser Arg Ala Ser Leu Val Ser Val Tyr Asn
115          120          125
Ser Tyr Pro Tyr Tyr Pro Tyr Leu Tyr Cys Val Gly Ser Trp Ser Pro
130          135          140
Ala Phe Trp
145

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<210> 337
<211> 9
<212> PRT
<213> Homo sapien

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<400> 337
Ala Leu Thr Gly Phe Thr Phe Ser Ala
1           5

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<210> 338
<211> 9
<212> PRT
<213> Homo sapien

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<400> 338
Leu Leu Ala Asn Asp Leu Met Leu Ile
1           5

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<210> 339
<211> 318
<212> PRT
<213> Homo sapien

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<400> 339
Met Val Glu Leu Met Phe Pro Leu Leu Leu Leu Leu Pro Phe Leu
1           5           10           15
Leu Tyr Met Ala Ala Pro Gln Ile Arg Lys Met Leu Ser Ser Gly Val
20           25           30
Cys Thr Ser Thr Val Gln Leu Pro Gly Lys Val Val Val Val Thr Gly
35           40           45
Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
50           55           60
Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
65           70           75           80
Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
85           90           95
Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
100          105          110
Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
115          120          125
Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

```

130	135	140
His Ile Gly Val Asn	His Leu Gly	His Phe Leu Leu Thr His Leu Leu
145	150	155
Leu Glu Lys Leu Lys	Glu Ser Ala Pro Ser	Arg Ile Val Asn Val Ser
165	170	175
Ser Leu Ala His His	Leu Gly Arg Ile His Phe His	Asn Leu Gln Gly
180	185	190
Glu Lys Phe Tyr Asn	Ala Gly Leu Ala Tyr Cys	His Ser Lys Leu Ala
195	200	205
Asn Ile Leu Phe Thr	Gln Glu Leu Ala Arg Arg	Leu Lys Gly Ser Gly
210	215	220
Val Thr Thr Tyr Ser	Val His Pro Gly Thr	Val Gln Ser Glu Leu Val
225	230	235
Arg His Ser Ser Phe	Met Arg Trp Met Trp	Trp Leu Phe Ser Phe Phe
245	250	255
Ile Lys Thr Pro Gln	Gln Gly Ala Gln Thr Ser	Leu His Cys Ala Leu
260	265	270
Thr Glu Gly Leu Glu	Ile Leu Ser Gly Asn His	Phe Ser Asp Cys His
275	280	285
Val Ala Trp Val Ser	Ala Gln Ala Arg Asn Glu	Thr Ile Ala Arg Arg
290	295	300
Leu Trp Asp Val Ser	Cys Asp Leu Leu Gly	Leu Pro Ile Asp
305	310	315

<210> 340
 <211> 483
 <212> DNA
 <213> Homo sapien

<400> 340	
gccgaggtct gccttcacac ggaggacacg agactgcttc ctcaagggct cctgcctgcc	60
tggacactgg tgggaggcgc tgttttagttg gctgttttca gaggggtctt tcggaggggac	120
ctcctgctgc aggctggagt gtctttattc ctggcgggag accgcacatt ccactgctga	180
ggttgtgggg gcggtttatc aggcagtgat aaacataaga tgtcatttcc ttgactccgg	240
ccttcaattt tctctttggc tgacgacgga gtccgtgggtg tcccgatgta actgaccct	300
gctccaaacg tgacatcact gatgctcttc tcgggggtgc tgatggcccg cttggtcacg	360
tgctcaatct cgccattcga ctcttgctcc aaactgtatg aagacacctg actgcacgtt	420
ttttctgggc ttccagaatt taaagtgaag ggcagcactc ctaagctccg actccgatgc	480
ctg	483

<210> 341
 <211> 344
 <212> DNA
 <213> Homo sapien

<400> 341	
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tatttttact aaccattcta tttttataga aatagctgag agtttctaaa ccaactctct	120
gctgccttac aagtattaaa tattttactt ctttccataa agagtagctc aaaatatgca	180
attaatttaa taattttctga tgatgggttt atctgcagta atatgtatat catctattag	240
aatttactta atgaaaaact gaagagaaca aaatttgtaa ccactagcac ttaagtactc	300
ctgattctta acattgtctt taatgaccac aagacaacca acag	344

<210> 342
 <211> 592
 <212> DNA
 <213> Homo sapien

<400> 342	
acagcaaaaa agaaactgag aagcccaaty tgctttcttg ttaacatcca cttatccaac	60
caatgtggaa acttcttata cttggttcca ttatgaagtt ggacaattgc tgctatcaca	120
cctggcaggt aaaccaatgc caagagagtg atggaaacca ttggcaagac tttgttgatg	180

accaggattg	gaattttata	aaaatattgt	tgatgggaag	ttgctaaag	gtgaattact	240
tccctcagaa	gagtgtaaag	aaaagtcaga	gatgctataa	tagcagctat	tttaattggc	300
aagtgccact	gtggaaagag	ttcctgtgtg	tgctgaagtt	ctgaaggga	gtcaaattca	360
tcagcatggg	ctgtttggtg	caaatgcaaa	agcacaggtc	tttttagcat	gctgggtctct	420
cccgtgtcct	tatgcaaata	atcgtcttct	tctaaatttc	tcctaggcct	cattttccaa	480
agttcttctt	ggtttgtgat	gtcttttctg	ctttccatta	attctataaa	atagtatggc	540
ttcagccacc	cactcttcgc	cttagcttga	ccgtgagtct	cggctgccgc	tg	592

<210> 343
 <211> 382
 <212> DNA
 <213> Homo sapien

<400> 343						
ttcttgacct	cctcctcctt	caagctcaaa	caccacctcc	cttattcagg	accggcactt	60
cttaatgttt	gtggctttct	ctccagcctc	tcttaggagg	ggtaatggtg	gagttggcat	120
cttgtaactc	tcctttctcc	tttcttcccc	tctctctgcc	cgcctttccc	atcctgctgt	180
agacttcttg	attgtcagtc	tgtgtcacat	ccagtgtatg	ttttggtttc	tgttcccttt	240
ctgactgccc	aaggggctca	gaacccccagc	aatcccttcc	tttcaactacc	ttcttttttg	300
ggggtagtgt	gaagggactg	aaattgtggg	gggaaggtag	gaggcacatc	aataaagagg	360
aaaccaccaa	gctgaaaaaa	aa				382

<210> 344
 <211> 536
 <212> DNA
 <213> Homo sapien

<400> 344						
ctgggcctga	agctgtaggg	taaatcagag	gcaggcttct	gagtgatgag	agtcctgaga	60
caataggcca	cataaacttg	gctggatgga	acctcacaat	aagggtggtca	cctcttggtt	120
gtttaggggg	atgccaagga	taaggccagc	tcagttatat	gaagagaagc	agaacaaaca	180
agtctttcag	agaaatggat	gcaatcagag	tgggatcccc	gtcacatcaa	ggtcacactc	240
caccttcgat	tgcttgaatg	gttgccaggt	cagaaaaatc	caccctttac	gagtgcggct	300
tcgaccctat	atcccccgcc	cgcgtccctt	tcctccataa	attcttctta	gtagctatta	360
ccttcttatt	atttgatcta	gaaattgccc	tccttttacc	cctaccatga	gccctacaaa	420
caactaacct	gccactaata	gttatgtcat	ccctcttatt	aatcatcatc	ctagccctaa	480
gtctggccta	tgagtgacta	caaaaaggat	tagactgagc	cgaataacaa	aaaaaa	536

<210> 345
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 345						
accttttgag	gtctctctca	ccacctccac	agccaccgtc	accgtgggat	gtgctggatg	60
tgaatgaagc	ccccatcttt	gtgcctcctg	aaaagagagt	ggaagtgtcc	gaggactttg	120
gcgtgggcca	ggaaatcaca	tcctacactg	cccaggagcc	agacacattt	atggaacaga	180
aaataacata	tcggatttgg	agagacactg	ccaactggct	ggagattaat	ccggacactg	240
gtgccatttc	c					251

<210> 346
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1) ... (282)
 <223> n = A, T, C or G

<400> 346						
cgcgtctctg	acactgtgat	catgacaggg	gttcaaacag	aaagtgcctg	ggccctcctt	60

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105

ctaagtcttg ttaccaaaaa aaggaaaaag aaaagatctt ctcagttaca aattctggga 120
 agggagacta tacctggctc ttgccctaag tgagaggtct tccctcccgc accaaaaaat 180
 agaaaggctt tctatttcac tggcccaggt agggggaagg agagtaactt tgagtctgtg 240
 ggtctcattt cccaaggtgc cttcaatgct catnaaaacc aa 282

<210> 347
 <211> 201
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(201)
 <223> n = A,T,C or G

<400> 347
 acacacataa tattataaaa tgccatctaa ttggaaggag ctttctatca ttgcaagtca 60
 taaatataac ttttaaaana ntactancag cttttaccta ngctcctaaa tgcttgtaaa 120
 tctgagactg actggaccca cccagaccca gggcaaagat acatgttacc atatcatctt 180
 tataaagaat tttttttgt c 201

<210> 348
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 348
 ctgtaaatca caacatttgt gcatcacttg tgccaagtga gaaaatgttc taaaatcaca 60
 agagagaaca gtgccagaat gaaactgacc ctaagtoccca ggtgcccctg ggcaggcaga 120
 aggagacact cccagcatgg aggagggttt atcttttcat cctaggtcag gtctacaatg 180
 ggggaagggt ttattataga actcccaaca gcccacctca ctctgccac ccaccgatg 240
 gccctgcctc c 251

<210> 349
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 349
 taaaaatcaa gccatttaat tgtatctttg aaggtaaaca atatatggga gctggatcac 60
 aacccctgag gatgccagag ctatgggtcc agaacaatggt gtggtattat caacagagtt 120
 cagaagggtc tgaactctac gtgttaccag agaacataat gcaattcatg cattccactt 180
 agcaattttg taaaatacca gaaacagacc ccaagagtct ttcaagatga ggaaaattca 240
 actcctgggt t 251

<210> 350
 <211> 908
 <212> DNA
 <213> Homo sapien

<400> 350
 ctggacactt tgcgagggt tttgctggct gctgctgctg cccgtcatgc tactcatcgt 60
 agcccgcocg gtgaagctcg ctgctttccc tacctcctta agtgactgcc aaacgcccac 120
 cggctggaat tgctctggtt atgatgacag agaaaatgat ctcttctctt gtgacaccaa 180
 cacctgtaaa tttgatgggg aatgtttaag aattggagac actgtgactt gcgtctgtca 240
 gttcaagtgc aacaatgact atgtgcctgt gtgtgggtcc aatggggaga gctaccagaa 300
 tgagtgttac ctgcgacagg ctgcatgcaa acagcagagt gagatacttg tgggtgcaga 360
 aggatcatgt gccacagtcc atgaaggctc tggagaaact agtcaaaaagg agacatccac 420
 ctgtgatatt tgccagtttg gtgcagaatg tgacgaagat gccgaggatg tctggtgtgt 480
 gtgtaatat gactgttctc aaaccaactt caatcccctc tgcgcttctg atgggaaatc 540
 ttatgataat gcatgccaaa tcaaagaagc atcgtgtcag aaacaggaga aaattgaagt 600
 catgtctttg ggtcagatgc aagataacac aactacaact actaagtctg aagatgggca 660

ttatgcaaga	acagattatg	cagagaatgc	taacaaatta	gaagaaagt	ccagagaaca	720
ccacatacct	tgtccggaac	attacaatgg	cttctgcatg	catgggaagt	gtgagcattc	780
tatcaatatg	caggagccat	cttgcagggt	tgatgctgg	tatactggac	aacactgtga	840
aaaaaaggac	tacagtgttc	tatacgttgt	tcccggctct	gtacgatttc	agtatgtctt	900
aatcgacg						908

<210> 351
 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
ccagttat	gcaagtgg	agagcctatt	taccataaat	aataactaaga	accaaactcaa	60
gtcaaacctt	aatgccattg	ttattgtgaa	ttaggattaa	gtagtaattt	tcaaaattca	120
cattaacttg	attttaaaat	cagwtttgyg	agtcattttac	cacaagctaa	atgtgtacac	180
tatgataaaa	acaaccattg	tattcctgtt	tttctaaaca	gtcctaattt	ctaactgt	240
atatatcctt	cgacatcaat	gaactttgtt	ttcttttact	ccagtaataa	agtaggcaca	300
gatctgtcca	caacaaactt	gccctctcat	gccttgcctc	tcacatgct	ctgctccagg	360
tcagccccct	tttggcctgt	ttgttttgtc	aaaaaccta	tctgcttctt	gcttttcttg	420
gtaatatata	tttagggaag	atgttgcttt	gccacacac	gaagcaaagt	aa	472

<210> 352
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
ctcaaagcta	atctctcggg	aatcaaacca	gaaaagggca	aggatcttag	gcatggtgga	60
tgtggataag	gccaggtcaa	tggtctgcaag	catgcagaga	aagaggtaca	tcggagcggtg	120
caggctgcgt	tccgtcctta	cgatgaagac	cacgatgcag	tttccaaaca	ttgccactac	180
atacatggaa	aggaggggga	agccaaccca	gaaatgggct	ttctctaate	ctgggatacc	240
aataagcaca	a					251

<210> 353
 <211> 436
 <212> DNA
 <213> Homo sapien

<400> 353						
ttttttttt	ttttttttt	tttttttaca	caatgcagtc	atattattat	tgagtatgtg	60
cacattatgg	tattattact	atactgatta	tatttatcat	gtgacttcta	attaraaaat	120
gtatccaaaa	gcaaaacagc	agatatacaa	aattaaagag	acagaagata	gacattaaca	180
gataaggcaa	cttatacatt	gacaatccaa	atccaatata	tttaaactt	tgaggaaatga	240
gggggacaaa	tggaagccar	atcaaatttg	tgtaaaacta	ttcagtatgt	ttcccttgt	300
tcatgtctga	raaggctctc	ccttcaatgg	ggatgacaaa	ctccaaatgc	cacacaaatg	360
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gggctcctaa	tgtagt					436

<210> 354
 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
ccttttctag	ttcaccagtt	ttctgcaagg	atgctgggta	gggagtgtct	gcaggaggag	60
caagtctgaa	accaaactca	ggaacatag	gaaacgagcc	aggcacaggg	ctgggtgggccc	120
atcaggggacc	accctttggg	ttgatatttt	gcttaactctg	catcttttga	gtaagatcat	180
ctggcagtag	aagctgttct	ccagggtacat	ttctctagct	catgtacaaa	aacatcctga	240
aggactttgt	cagggtgcctt	gctaaaagcc	agatgcgttc	ggcacttctt	tggtctgagg	300
ttaattgcac	acctacagcc	actgggctca	tgctttcaag	tattttgtcc	tcactttagg	360
gtgagtgaaa	gatccccatt	ataggagcac	ttgggagaga	tcatataaaa	gctgactctt	420
gagtacatgc	agtaatgggg	tagatgtgtg	tggtgtgtct	tcattcctgc	aagggtgctt	480

gttagggagt	gtttccagga	ggaacaagtc	tgaaaccaat	catgaaataa	atggtaggtg	540
tgaactggaa	aactaattca	aaagagagat	cgtgatatca	gtgtggttga	tacaccttgg	600
caatatggaa	ggctctaatt	tgcccatatt	tgaaataata	attcagcttt	ttgtaataca	660
aaataacaaa	ggattgagaa	tcattggtgtc	taatgtataa	aagacccagg	aaacataaat	720
atatcaactg	cataaatgta	aaatgcatgt	gacccaagaa	ggccccaagg	tggcagacaa	780
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acacgggatg	tcag					854

<210> 355
 <211> 676
 <212> DNA
 <213> Homo sapien

<400> 355						
gaaattaagt	atgagctaaa	ttccctgtta	aaacctctag	gggtgacaga	tctcttcaac	60
cagggtcaaag	ctgatctttc	tggaatgtca	ccaaccaagg	gcctatatatt	atcaaaaagcc	120
atccacaagt	catacctgga	tgtcagcgaa	gagggcacgg	aggcagcagc	agccactggg	180
gacagcatcg	ctgtaaaaag	cctaccaatg	agagctcagt	tcaaggcgaa	ccacccttc	240
ctgttcttta	taaggcacac	tcataccaac	acgatcctat	tctgtggcaa	gcttgccctc	300
ccctaatacag	atgggggttga	gtaaggctca	gagttgcaga	tgaggtgcag	agacaatcct	360
gtgactttcc	cacggccaaa	aagctgttca	cacctcacgc	acctctgtgc	ctcagtttgc	420
tcattctgcaa	aataggtcta	ggatttcttc	caaccatttc	atgagttgtg	aagctaaggc	480
tttgttaate	atggaaaaag	gtagacttat	gcagaaagcc	tttctggctt	tcttatctgt	540
ggtgtctcat	ttgagtgtcg	tccagtgcga	tgatcaagtc	aatgagtaaa	attttaaggg	600
attagatttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgacatctct	660
gcttaaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 356						
tttttttttt	tttttcagga	aaacattctc	ttactttatt	tgcatctcag	caaaggttct	60
catgtggcac	ctgactggca	tcaaaccaaa	gttcgtaggc	caacaaagat	gggccactca	120
caagcttccc	atttgtagat	ctcagtgcc	atgagtatct	gacacctgtt	cctctcttca	180
gtctcttagg	gaggcttaaa	tctgtctcag	gtgtgctaag	agtgccagcc	caaggkggtc	240
aaaagtccac	aaaactgcag	tctttgctgg	gatagtaagc	caagcagtcg	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttattcaaca	360
ttcttctgtc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	acaggggaag	420
agatacaagc	tcgtttacat	gtgatagatc	taacaaagcc	atctaccgaa	gtctggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgctgctggt	tggaggacat	tcctgagtc	540
agctttgcag	cctttgtgca	acagtacttt	ccca			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357						
tttttttttt	tttttttttt	tttttttttt	tacagaatat	aratgcttta	tactgkact	60
taatatggkg	kcttgttcac	tatacttaaa	aatgcaccac	tcataaatat	ttaattcagc	120
aagccacaac	caaracttga	ttttatcaac	aaaaaccct	aaatataaac	ggsaaaaaag	180
atagatatata	ttattccagt	ttttttaaaa	cttaaaarat	attccattgc	cgaattaara	240
araarataag	tggttatatg	aaagaagggc	attcaagcac	actaaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	tttggcattt	taacaaattt	gcaacgktct	360
tttttttctt	tttctgtttt	tttttttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358
acagggtaaa caggaggatc cttgctctca cggagcttac attctagcag gaggacaata 60
ttaatgttta taggaaaatg atgagtttat gacaaaggaa gtagatagtg ttttacaaga 120
gcatagagta gggaagctaa tccagcacag ggaggtcaca gagacatccc taagggaagt 180
gagtttaaac tgagagaagc aagtgtctaa actgaaggat gtgttgaaga agaagggaga 240
gtagaacaat ttgggcagag ggaaccttat agaccctaag gtgggaaggt tcaaagaact 300
gaaagagagc tagaacagct ggagccgttc tccgtgttaa agaggagtca aagagataag 360
attaaagatg tgaagattaa gatcttggtg gcattcaggg attggcactt ctacaagaaa 420
tactgaagg gagtaatgtg acattacttt tcatttcagg atggccattc taactccagg 480
gggtagactg gactaggtaa gactggaggc aggtagacct cttctaaggc ctgcgatagt 540
gaaagacaaa aataagtggg gaaattcagg ggatagttaa aatcagtagg acttaatgag 600
caagccagag gttcctccac aacaaccagt 630

<210> 359
<211> 620
<212> DNA
<213> Homo sapien

<400> 359
acagcattcc aaaatataca tctagagact aarrgtaaat gctctatagt gaagaagtaa 60
taattaaaaa atgctactaa tatagaaaat ttataatcag aaaaataaat attcagggag 120
ctcaccagaa gaataaagtg ctctgccagt tattaaagga ttactgctgg tgaattaaat 180
atggcattcc ccaagggaag tagagagatt cttctggatt atgttcaata tttatttcac 240
aggattaact gttttaggaa cagatataaa gcttcgccac ggaagagatg gacaaagcac 300
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tgcaacatta tgcttcatga ataatatgta gaaagaaggt ctgatgaaaa tgacatcctt 420
aatgtaagat aactttataa gaattctggg tcaaataaaa ttctttgaag aaaacatcca 480
aatgtcattg acttatcaaa tactatcttg gcatataacc tatgaaggca aaactaaaca 540
aacaataaagc tcacacaaa caaaaccatc aacttatttt gtattctata acatacgaga 600
ctgtaaagat gtgacagtgt 620

<210> 360
<211> 431
<212> DNA
<213> Homo sapien

<400> 360
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tactcatcat ttttggccag cagttgtttg atcaccaaac atcatgccag aatactcagc 180
aaaccttctt agctcttgag aagtcaaagt ccgggggaat ttattcctgg caattttaat 240
tggaactcctt atgtgagagc agcggctacc cagctggggg ggtggagcga acccgctact 300
agtggacatg cagtggcaga gctcctggtg accacctaga ggaatacaca ggcacatgtg 360
tgatgccaaag cgtgacacct gtagcactca aatttgtctt gtttttgtct ttcggtgtgt 420
agattcttag t 431

<210> 361
<211> 351
<212> DNA
<213> Homo sapien

<400> 361
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ttgggtcctc tgggtctcttg ccaagtttcc cagccactcg agggagaaat atcgggaggt 180
ttgacttctt ccggggcttt cccgaggggt tcaccgtgag ccctgcccgc ctccagggctg 240
caatcctgga ttcaatgtct gaaacctcgc tctctgcctg ctggacttct gaggccgtca 300
ctgccactct gtccctccagc tctgacagct cctcatctgt ggtcctgttg t 351

<210> 362
<211> 463

<212> DNA
<213> Homo sapien

<400> 362
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tgtagatgag ccggctgaag atcttgcgca tgcgcggctt cagggcgaag ttcttggcgc 120
ccccggtcac agaaatgacc aggttgggtg ttttcagggtg ccagtgcctgg gtcagcagct 180
cgtaaaggat ttccgcgtcc gtgtcgcagg acagacgtat atacttccct ttcttcccca 240
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agttccattt ctcaacttgg ttgatctggg tgccttccat gtgctggctc tgggcatagc 360
cacacttgca cacattctcc ctgataagca cgatggtgtg gacaggaagg aaggatttca 420
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<210> 363
<211> 653
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(653)
<223> n = A,T,C or G

<400> 363
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tgggaggcac tacgcaagat gggactgcgt cctgggggtga gacatcctct ccttggagat 180
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ccaacagcaa cccccggaa gtatgagttc agaggttcag aaaagagacc cntcgtgact 300
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atcttgagga tccntggtcc agaattccat ttacctctg ggccagatac caccagaatg 600
cccgtccag attccctcag accttggccg gtccattat tggctstggt ggt 653

<210> 364
<211> 401
<212> DNA
<213> Homo sapien

<400> 364
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aaaacaaggt ggatagatct agaattgtaa cattttaaga aaaccatagc atttgacaga 180
tgagaaagct caattataga tgcaaaagtta taactaaact actatagtag taaagaaata 240
catttcacac cttcatata aattcactat cttggcttga ggcactccat aaaatgtatc 300
acgtgcatag taaatcttta tatttgctat ggcgttgac tagaggactt ggactgcaac 360
aagtggatgc gcggaaaatg aaatcttctt caatagccca g 401

<210> 365
<211> 356
<212> DNA
<213> Homo sapien

<400> 365
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taccagagca tcaagtctct gcagcaggtc attcttgggt aaagaaatga cttccacaaa 180
ctctccatcc cctggcttgg gcttcggcct tgcgttttcg gcatcatctc cgtaaatggt 240
gactgtcacg atgtgtatag tacagtttga caagcctggg tccatacaga ccgctggaga 300
acattcggca atgtcccctt tgtagccagt ttcttcttcg agctcccgga gagcag 356

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366

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tcaattcctt	taagcctttg	tgactcttcc	tctgatgtca	gctttaagtc	ttgttctgga	180
ttgctgtttt	cagaagagat	ttttaacatc	tgtttttctt	tgtagtcaga	aagtaactgg	240
caaattacat	gatgatgact	agaaacagca	tactctctgg	ccgtctttcc	agatcttgag	300
aagatacatc	aacatttttg	tcaagtagag	ggctgactat	acttgctgat	ccacaacata	360
cagcaagtat	gagagcagtt	cttccatctc	tatccagcgc	atttaaattc	gcttttttct	420
tgattaaaaa	tttcaccact	tgctgttttt	gctcatgtat	accaagtagc	agtgggtgtga	480
ggccatgctt	gtttttttgat	tcgatctcag	caccgtataa	gagcagtgct	ttggccatta	540
atttatcttc	attgtagaca	gcatagtgta	gagtggattt	tccatactca	tctggaatat	600
ttggatcagt	gccatgttcc	agcaacatta	acgcacattc	atcttcctgg	cattgtacgg	660
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cttttcccca	tttagtatta	tgttggtgtg	gggcttgcca	taggtgggtt	ttattacttt	1800
aaggatgtgc	ccttctatgc	ctgttttgct	gagggtttta	attctcgtgc	c	1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367

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ttcagtattt	tgaagataaaa	attrgtagat	ctataccttg	ttttttgatt	cgatatcagc	120
accrtataag	agcagtgcct	tgcccatata	tttatctttc	attrtagaca	gcrtagtgya	180
gagtgggtatt	tccatactca	tctggaatat	ttggatcagt	gccatgttcc	agcaacatta	240
acgcacattc	atcttctctg	cattgtacgg	cctgtcagta	ttagacccaa	aaacaaatta	300
catatcttag	gaattcaaaa	taacattcca	cagctttcac	caactagtta	tatttaaagg	360
agaaaaactca	tttttatgcc	atgtattgaa	atcaaaccga	cctcatgctg	atatagttgg	420
ctactgcata	cctttatcag	agctgtcctc	tttttggtgt	caaggacatt	aagttgacat	480
cgtctgtcca	gcaggagttt	tactacttct	gaattcccat	tggcagaggc	cagatgtaga	540
gcagtcctat	gagagtgcga	agacttttta	ggaaattgta	gtgcactagc	tacagccata	600
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aaaaaaaa						668

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

<400> 368

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tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttgggtc	tcaggagcaa	gatgggcaag	300
tggtgctgcc	gttgcttccc	ctgctgcagg	gagagcggca	agagcaacgt	gggcacttct	360
ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
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gaagtagtaa	aactcstgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
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taaaaaacag	taatagatac	gaggtgatgc	gcctgtcagt	ggcaagggtt	aagatatattc	1500
tgatctcgtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

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ttcaaacaga	ttggaacccc	ggagttacct	gctagttggt	gaaactgggt	ggtagacgcg	180
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tccatgccgg	ctgcttcttc	tgtgaagaag	ccatttgggtc	tcaggagcaa	gatgggcaag	300
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ggagaccacg	acgactctgc	tatgaagaca	ctcaggagca	agatgggcaa	gtggtgccgc	420
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cctatgagac	taggctttga	gaatcaatag	attctttttt	taagaatctt	ttggctagga	1560
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112

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ggagaatggc	atgaacccgg	gaggtggagg	ttgcagttag	ccgagatccg	ccactacact	1800
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<210> 370

<211> 2184

<212> DNA

<213> Homo sapien

<400> 370

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tttcctctga	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
tgtgtctgtt	gagatgctta	tgtgactttg	cttttaattc	tgtttatgtg	attatcacat	240
ttattgactt	gcctgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccaccgtgtg	300
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gtggcgctga	tggctgagga	cagagcttca	gtgtggcttc	tctgcgactg	gcttcttcgg	420
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<210> 371

<211> 1855

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(1855)

<223> n = A,T,C or G

<400> 371

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cacgcgcacg	ttgcacgcgc	ggcagcggtc	tggctggctt	gtaacggctt	gcacgcgcac	120

gccgccccg	cataaccgtc	agactggcct	gtaacggcct	gcaggcgcac	gccgcacgcg	180
cgtaacggct	tggctgccct	gtaacggcct	gcacgtgcat	gctgcacgcg	cgtaacggc	240
ttggctggca	tgtagccgct	tggcttggct	ttgcattytt	tgctkggctk	ggcgttgkty	300
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gctgggtggt	ttctccgggg	gggktkgccc	ttcctggggg	gggcgtgggk	cgccccccagg	480
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cagttttttt	tttttaaatg	cacttctggg	aaatactttt	gttgaaaaca	ctgaatttgt	1620
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tgtaagatgg	caaaatttgc	cctgaaatag	gttttacatg	aaaactccaa	gaaaagttaa	1740
acatgtttca	gtgaatagag	atcctggtcc	tttggaaggt	tcctaaaaaa	cagtaataga	1800
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<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

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gcgcttgrrg	agactmccat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
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atcgtcatgc	tcagggacac	tgaygtgaac	aagarggaca	agcaaaagag	gactgctcta	300
catctggcct	ctgccaatgg	gaattcagaa	gtagtataac	tcstgctgga	cagacgatgt	360
caacttaatg	tccttgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaatgccag	420
gaagatgaat	gtgctgtaat	gttgctggaa	catggcactg	atccaaatat	tccagatgag	480
tatggaaata	ccactctrca	ctaygctrct	tayaatgaag	ataaattaat	ggccaaagca	540
ctgctcttat	ayggtgctga	tatcgaatca	aaaaacaagg	tatagatcta	ctaattttat	600
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ctttatttta	aatattgtta	ttttcaaaga	agcattagag	ggtacagttt	ttttttttta	780
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<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

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<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

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tgggtgctgcc	actgcttccc	ctgctgcagg	gggagcggca	agagcaaggt	ggcgcttgg	360
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<210> 375

<211> 2040
 <212> DNA
 <213> Homo sapien

<400> 375

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<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376

Met	Asp	Ile	Val	Val	Ser	Gly	Ser	His	Pro	Leu	Trp	Val	Asp	Ser	Phe
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			20					25					30		
Glu	Tyr	Thr	Ile	Val	His	Ala	Ser	Phe	Ile	Ser	Cys	Ile	Ser	Ser	Ser
		35					40					45			
Leu	Asp	Gly	Gln	Gly	Glu	Arg	Gln	Glu	Gln	Arg	Gly	His	Phe	Trp	Arg
	50				55				60						
Pro	Gln	Arg	Leu	Leu	Cys	Glu	Asp	Ala	Trp	Glu	Gln	Glu	Val	Gln	Val
65					70				75					80	
Val	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Gln	Gly	Ser	Gly	Lys	Ser	Asn	Val
			85					90						95	
Val	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Asp	Pro	Arg	Tyr
			100					105					110		
His	Val	His	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp
		115					120								

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
 Glu Gln Asn Val Asp Val Ser Ser Gln Asp Leu Glu Arg Arg Pro Glu
 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
 325

<210> 377
 <211> 148
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(148)
 <223> Xaa = Any Amino Acid

<400> 377
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 Trp Thr Ser Ser Thr Glu Leu Pro Trp Trp Gly Lys Val Pro Arg Lys
 20 25 30
 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser
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 Lys Asn Lys Val
 145

<210> 378
 <211> 1719
 <212> PRT

<213> Homo sapien

<400> 378

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20      25      30
Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
35      40      45
His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
50      55      60
Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
65      70      75      80
Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
85      90      95
Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
100     105     110
Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
115     120     125
Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
130     135     140
Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
145     150     155     160
Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
165     170     175
Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
180     185     190
Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
195     200     205
Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
210     215     220
Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
225     230     235     240
Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
245     250     255
Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
260     265     270
Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
275     280     285
Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
290     295     300
Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
305     310     315     320
Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
325     330     335
Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His Val
340     345     350
Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
355     360     365
Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys
370     375     380
Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser
385     390     395     400
Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys
405     410     415
Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly
420     425     430
Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys
435     440     445
Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly
450     455     460
Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys

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465					470					475					480
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Cys	Arg	Gly	Ser	Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp
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Asp	Ser	Ala	Phe	Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu
		515					520					525			
Asp	Lys	Leu	His	Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp
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Leu	Ile	Val	Met	Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln
545					550					555					560
Lys	Arg	Thr	Ala	Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val
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Val	Lys	Leu	Leu	Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn
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Lys	Lys	Arg	Thr	Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu
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Cys	Ala	Leu	Met	Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp
	610					615				620					
Glu	Tyr	Gly	Asn	Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys
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Gln	Gln	Val	Val	Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala
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Leu	Asp	Arg	Tyr	Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly
	690					695					700				
Ser	Ala	Ser	Ile	Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser
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Ser	Gln	Asp	Leu	Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser
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His	His	His	Val	Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln
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Gln	Pro	Glu	Lys	Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp
785					790				795					800	
Arg	Glu	Val	Glu	Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly
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Leu	Leu	Glu	Asn	Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn
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Gly	Leu	Ile	Pro	Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe
		835					840					845			
Pro	Asp	Asn	Glu	Ser	Glu	Glu	Tyr	His	Arg	Ile	Cys	Glu	Leu	Val	Ser
	850					855					860				
Asp	Tyr	Lys	Glu	Lys	Gln	Met	Pro	Lys	Tyr	Ser	Ser	Glu	Asn	Ser	Asn
865					870					875				880	
Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu	Glu	Glu	Ser	Gln	Arg	Leu
				885					890					895	
Glu	Gly	Ser	Glu	Asn	Gly	Gln	Pro	Glu	Leu	Glu	Asn	Phe	Met	Ala	Ile
			900					905					910		
Glu	Glu	Met	Lys	Lys	His	Gly	Ser	Thr	His	Val	Gly	Phe	Pro	Glu	Asn
		915					920					925			
Leu	Thr	Asn	Gly	Ala	Thr	Ala	Gly	Asn	Gly	Asp	Asp	Gly	Leu	Ile	Pro
	930					935					940				
Pro	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Ser	Gln	Gln	Phe	Pro	Asp	Thr	Glu
945					950					955				960	
Asn	Glu	Glu	Tyr	His	Ser	Asp	Glu	Gln	Asn	Asp	Thr	Gln	Lys	Gln	Phe

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 Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Il Leu Ile His
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 Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser
 995 1000 1005
 Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu
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 Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His
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 Gln Ser Gln Leu Pro Arg Thr His Met Val Val Glu Val Asp Ser Met
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 Gly Lys Trp Cys Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys
 1075 1080 1085
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 Arg Gly Ser Gly Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp
 1125 1130 1135
 Ser Ala Met Lys Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His
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 Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp
 1155 1160 1165
 Gly Asp Tyr Asp Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg
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 Gly Glu Asp Leu Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val
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 Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys
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 Lys Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly
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 1235 1240 1245
 Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys
 1250 1255 1260
 Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro
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 Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr
 1285 1290 1295
 Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp
 1300 1305 1310
 Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu Leu Gly Val
 1315 1320 1325
 His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala
 1330 1335 1340
 Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala
 1345 1350 1355 136
 Val Cys Cys Gly Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn
 1365 1370 1375
 Ile Asp Val Ser Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr
 1380 1385 1390
 Ala Val Ser Ser His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr
 1395 1400 1405
 Lys Glu Lys Gln Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu
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 Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly
 1425 1430 1435 144
 Ser Glu Asn Ser Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn
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 Lys Asp Gly Asp Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser

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 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
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 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
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 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
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 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 160
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 168
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
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 Met Lys His Gln Ser Gln Leu
 1715

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 <212> PRT
 <213> Homo sapien

<400> 379
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 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175

Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln S r Gln Leu
 645 650 655

<210> 380

<211> 671
 <212> PRT
 <213> Homo sapien

<400> 380

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			20					25					30		
Pro	Cys	Cys	Arg	Glu	Ser	Gly	Lys	Ser	Asn	Val	Gly	Thr	Ser	Gly	Asp
		35					40					45			
His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Ser	Lys	Met	Gly	Lys	Trp
	50					55					60				
Cys	Arg	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser	Gly	Lys	Ser	Asn	Val
65					70					75				80	
Gly	Ala	Ser	Gly	Asp	His	Asp	Asp	Ser	Ala	Met	Lys	Thr	Leu	Arg	Asn
				85					90					95	
Lys	Met	Gly	Lys	Trp	Cys	Cys	His	Cys	Phe	Pro	Cys	Cys	Arg	Gly	Ser
			100					105					110		
Gly	Lys	Ser	Lys	Val	Gly	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe
			115				120					125			
Met	Glu	Pro	Arg	Tyr	His	Val	Arg	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His
	130					135					140				
Arg	Ala	Ala	Trp	Trp	Gly	Lys	Val	Pro	Arg	Lys	Asp	Leu	Ile	Val	Met
145					150					155					160
Leu	Arg	Asp	Thr	Asp	Val	Asn	Lys	Lys	Asp	Lys	Gln	Lys	Arg	Thr	Ala
				165					170					175	
Leu	His	Leu	Ala	Ser	Ala	Asn	Gly	Asn	Ser	Glu	Val	Val	Lys	Leu	Leu
			180					185					190		
Leu	Asp	Arg	Arg	Cys	Gln	Leu	Asn	Val	Leu	Asp	Asn	Lys	Lys	Arg	Thr
		195					200					205			
Ala	Leu	Ile	Lys	Ala	Val	Gln	Cys	Gln	Glu	Asp	Glu	Cys	Ala	Leu	Met
	210					215					220				
Leu	Leu	Glu	His	Gly	Thr	Asp	Pro	Asn	Ile	Pro	Asp	Glu	Tyr	Gly	Asn
225					230					235					240
Thr	Thr	Leu	His	Tyr	Ala	Ile	Tyr	Asn	Glu	Asp	Lys	Leu	Met	Ala	Lys
				245					250					255	
Ala	Leu	Leu	Leu	Tyr	Gly	Ala	Asp	Ile	Glu	Ser	Lys	Asn	Lys	His	Gly
			260					265					270		
Leu	Thr	Pro	Leu	Leu	Leu	Gly	Val	His	Glu	Gln	Lys	Gln	Gln	Val	Val
		275					280					285			
Lys	Phe	Leu	Ile	Lys	Lys	Lys	Ala	Asn	Leu	Asn	Ala	Leu	Asp	Arg	Tyr
		290				295					300				
Gly	Arg	Thr	Ala	Leu	Ile	Leu	Ala	Val	Cys	Cys	Gly	Ser	Ala	Ser	Ile
305					310					315					320
Val	Ser	Leu	Leu	Leu	Glu	Gln	Asn	Ile	Asp	Val	Ser	Ser	Gln	Asp	Leu
				325					330					335	
Ser	Gly	Gln	Thr	Ala	Arg	Glu	Tyr	Ala	Val	Ser	Ser	His	His	His	Val
			340					345					350		
Ile	Cys	Gln	Leu	Leu	Ser	Asp	Tyr	Lys	Glu	Lys	Gln	Met	Leu	Lys	Ile
		355					360					365			
Ser	Ser	Glu	Asn	Ser	Asn	Pro	Glu	Gln	Asp	Leu	Lys	Leu	Thr	Ser	Glu
		370				375					380				
Glu	Glu	Ser	Gln	Arg	Phe	Lys	Gly	Ser	Glu	Asn	Ser	Gln	Pro	Glu	Lys
385					390					395					400
Met	Ser	Gln	Glu	Pro	Glu	Ile	Asn	Lys	Asp	Gly	Asp	Arg	Glu	Val	Glu
				405					410					415	
Glu	Glu	Met	Lys	Lys	His	Glu	Ser	Asn	Asn	Val	Gly	Leu	Leu	Glu	Asn
			420					425					430		
Leu	Thr	Asn	Gly	Val	Thr	Ala	Gly	Asn	Gly	Asp	Asn	Gly	Leu	Ile	Pro
		435					440					445			
Gln	Arg	Lys	Ser	Arg	Thr	Pro	Glu	Asn	Gln	Gln	Phe	Pro	Asp	Asn	Glu

450		455		460
Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu				
465		470		475
Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp				
	485		490	495
Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu				
	500		505	510
Asn Gly Gln Pro Glu Lys Arg Ser Gln Glu Pro Glu Ile Asn Lys Asp				
	515		520	525
Gly Asp Arg Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys Lys				
	530		535	540
His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly Ala				
545		550		555
Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser Arg				
	565		570	575
Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr His				
	580		585	590
Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln Asn				
	595		600	605
Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln Ile				
610		615		620
Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys Lys				
625		630		635
Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile Ala				
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Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu				
	660		665	670

<210> 381
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 381
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 ccaatatccc aggagaagca ttggggaggt gggggcaggt gaaggaccca ggactcacac 180
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 caagcagtca g 251

<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapiens

<400> 382
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 cactgggagg ggacatcctg cagaaggtag gagtgcagaa acacccgctg caggggaggg 180
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gttttcagac cttaaaaaaa aaaaaaaaaa aaaagtttt 3279

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<210> 383

<211> 155

<212> PRT

<213> Homo sapiens

<400> 383

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Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
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His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45

Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60

Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80

Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

125

	85		90		95										
Trp	Ala	Leu	Thr	Gln	Pro	Pro	Ser	Gln	Ser	Pro	Gly	Pro	Gln	Ser	Leu
		100						105					110		
Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
		115					120					125			
Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
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Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
145					150										

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
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 ttgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgattc tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
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 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaag 480
 tcaattgtga aaatgaatat catgcaaata aattatgcga ttttttttcc aaagtaaaaa 540
 aaaaaaaaaa aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
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 tctcaaagcc atctgctgtc ttcgagtacg gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc aaaagctcga atagacttag 240
 tatcagacag gtccagtttc cgcaccaaca cctgctggtt ccctgtcgtg gtctggatct 300
 ctttgccac caattccccc tttccacat ccgcca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgtca ccggcccagg ccccgccctcg cgagtcctcc tccccgggtg cctgcccgcga 60
 gccgcgtcgg ccagaggggt gggcgcgggg ctgcctctac cggctggcgg ctgtaactca 120
 gcgaccttgg ccgaagggt ctagcaagga cccaccgacc ccagccgagg cggcggcggc 180
 gcggactttg ccggtgtgt gggcgggagc ggactgcgtg tccgcggacg ggcagcgaag 240
 atgttagcct tcgctgccag gaccgtggac cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

126

<400> 387

```
gggccgagtc gggcaccaag ggactctttg caggcttctt tctcgggac atcaaggctg 60
ccccctcctg tgccatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccagga ccggcttctg ggcggtgaa aggggcaagg aggcaaggac cccgtctctc 180
ccacggatgg ggagagggca ggaggagacc cagccaagtg ccttttctc agcactgagg 240
gagggggcctt gtttcccttc cctcccggcg acaagctcca gggcagggct gtccctctgg 300
gcggcccagc acttcctcag acacaacttc ttctgctgc tccagtcgtg gggatcatca 360
cttaccacc cccaagtgc aagaccaa atctccagctg cccctctgt gtttccctgt 420
gtttgctgta gctgggcatg tctccaggaa ccaagaagcc ctccagctgg ttagtctcc 480
ctgacccttg ttaattcctt aagtctaaag atgatgaact tcaaaaaaaa aaaaaaa 537
```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```
aggataattt ttaaaccaat caaatgaaaa aaacaaacaa aaaaaaagg aaatgtcatg 60
tgaggttaaa ccagtttgca ttccccta atgtgaaaaa taagaggact actcagcact 120
gtttgaagat tgctctctt acagcttctg agaattgtgt tatttcaact gccaaagtga 180
ggacccctc cccaacatgc ccagcccac ccctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttggt gacctacca gagaccagga gggtttggt agctcacagg 300
acttccccc cccagaaga ttagcatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatggta ttagacaatt ccatttctt ctggttatta taaacagaaa 420
atctttctc ttctcattac cagtaaaggc tcttggtatc tttctgttg aatgatttct 480
atgaacttgt cttattttta tgggtgggtt ttttctggt 520
```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```
cggtgcccc gtttgacaga aggaaaggcg gagcttattc aaagtctaga gggagtggag 60
gagttaaggc tggatttcag atctgcctgg ttccagccgc agtgtgccct ctgctcccc 120
aacgactttc caaataatct caccagcgcc ttccagctca ggcgtcctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtcctcac agctgagact 240
cccaggaaac cttcagacta ccttctctg ccttcagcaa ggggcgttgc ccacattctc 300
tgagggtcag tggaagaacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
gggag 365
```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(221)

<223> n = A,T,C or G

<400> 390

```
tgctctcca tctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacacgntt ctcatgggtg tggaacatct ctgcttgagg tttcaggaag gcctctggct 120
gctctangag tctgancnga ntcgttgccc cantntgaca naaggaaagg cggagcttat 180
tcaaagtcta gagggagtgg aggagttaag gctggatttc a 221
```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgcgcc cagcctggag ctgctcctgg catctaccaa caatcagncg aggcgagcag 120
 tagccagggc actgctgcca acagccagtc cnnataccat catgtnaccc ggtgngctct 180
 naanttngat ntccanagcc ctacccatcn tagttctgct ctcccaccgg ntaccagccc 240
 cactgcccag gaatcctaca gccagtaccc tgtcccagac tctctaccta ccagtacgat 300
 gagacctccg gctactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgttta actccttcct ttatatcttt taacattttc atggngaaag gttcacatct 60
 agtctcactt nggcnagn gn ctcctacttg agtctcttcc cgggcctggn ccagtngnaa 120
 antaccanga accgncatgn cttanaaach ncctggtttn tgggttnntc aatgactgca 180
 tgcagtgcac caccctgtcc actacgtgat gctgtaggat taaagtctca cagtgggcgg 240
 ctgaggatac agcgccgcgt cctgtgttgc tggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtccag tgtggtggaa ttgcgggccg cgtcgacgga caggtcagct gtctggctca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga ttaaattcag cctaaacgtt 120
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
 gagaaggtct agtttgtcca tcagcattat catgatatac ggactgggta cttgggttaag 240
 gaggggtcta ggagatctgt cccttttaga gacaccttac ttataatgaa gtatttggga 300
 ggggtggttt caaaagtaga aatgtcctgt attccgatga tcatcctgta aacattttat 360
 catttattaa tcatccctgc ctgtgtctat tattatattc atatctctac gctggaaact 420
 ttctgcctca atgtttactg tgcctttgtt tttgctagtt tgtgttgttg aaaaaaaaaa 480
 cattctctgc ctgagtttta atttttgtcc aaagttattt taatctatac aattaaaagc 540
 ttttgcctat caaaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccggcac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
 tgcaaatng gaccgggcca aggctggact gctggagcgt gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgagtgtc actgtagacc ccaaatacca 180
 tccaagatt atcgggagaa agggggcagt aattacccaa atccggttgg agcatgacgt 240

gaacatccag tttcctgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
 agggtagcaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
 tgagcagatg gtttctgagg acgt 384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

ggcaaaaactg tgtgacctca ataagacctc gcagatccaa ggtcaagtat cagaagtgc 60
 tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
 tatcagaggt ttcattcattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
 attcacgtct ttcagtagc ctgagttctc tatagagttg cctaacacag gcagaattgg 240
 ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgacgt 300
 caagttctct ttggaaagcc tgggcatctc ctactacag acctctgacc atgggacgg 360
 gcagcctggt gagaccatcc aatcccaaata aaaatgcac 399

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

tggagttntc agtgcaaaca agccataaag cttcagtagc aaattactgt ctcacagaaa 60
 gacattttca acttctgctc cagctgctga taaaacaaat catgtgttta gcttgactcc 120
 agacaaggac aacctgttcc ttcataactc tctagagaaa aaaaggagtt gttagtagat 180
 actaaaaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaaacacat 240
 taggaaaatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
 gtttagggga gggagtgagg gataaaaaga ggaaaaaaaag aagagtgaga aaacctattt 360
 atcaaagcag gtgctatcac tcaatgttag gccctgctct ttt 403

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

actagtnacg tgtggtggaa ttcgcggccg cgtcgacctc naanccatct ctatagcaaa 60
 tccatccccg ctctggttg gtnacagaat gactgacaaa 100

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 398

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129

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gcggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtggggatg tgctgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgagggtg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaaggag ttgctactca agccccacag 240
ctatggccgc ttcattangt ggctcaacaa ggagaagg 278

```

<210> 399
 <211> 298
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(298)
 <223> n = A,T,C or G

```

<400> 399
acggagggtg aggaagcgnc cctgggatcg anaggatggg tcctgncatt gaccnccctn 60
ggggtgcccng catggagcgc atgggcgcgg gcctggggcca cggcatggat cgcggtgggct 120
ccgagatcga gcgcatgggc ctgggtcatgg accgcatggg ctccgtggag cgcatgggct 180
ccggcattga gcgcatgggc ccgctgggccc tcgaccacat ggccctccanc attgancgca 240
tgggccagac catggagcgc attggctctg gcgtggagcn catgggtgcc ggcatggg 298

```

<210> 400
 <211> 548
 <212> DNA
 <213> Homo sapiens

```

<400> 400
acatcaacta cttcctcatt ttaaggtatg gcagttccct tcctcccctt ttctgcctt 60
gtacatgtac atgtatgaaa ttctcttctc ttaccgaact ctctccacac atcacaagg 120
caaaagaacca cagccttaga agggtaagag ggcaccctat gaaatgaaat ggtgatttct 180
tgagtctctt ttttccacgt ttaaggggccc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta ttcatacag gctttgaggc caccatgtc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccc aagatgcaac tgggcagcta 360
gttggcccca taattctggg cctttgttgt ttgttttaat tacttgggca tcccaggaag 420
ctttccagtg atctctacc atgggcccc ctctctggat caagcccctc ccaggccctg 480
tccccagccc ctctgcccc agcccacccg cttgccttgg tgctcagccc tcccattggg 540
agcaggtt

```

<210> 401
 <211> 355
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(355)
 <223> n = A,T,C or G

```

<400> 401
actgtttcca tggtagttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggg ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtggcc atgggtggcg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnngg tttccaacca ggggaagggt 300
cccttttgca ttgccaagtg ccataaccat gagcactact ctaccatggn tctgc 355

```

<210> 402
 <211> 407
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A,T,C or G

<400> 402
 atggggcaag ctggataaag aaccaagacc cactggagta tgctgtcttc aagaaaccca 60
 tctcacatgc ggtggcatac atagggtcaa aataaaggaa tggagaaaaa tatttcaagc 120
 aaatggaaaa cagaaaaaag caggtgttgc actcctactt tctgacaaaa cagactatgc 180
 gaataaagat aaaaaagaga aggacattac aaaggtgggc ctgacctttg ataaatctca 240
 ttgcttgata ccaacctggg ctgttttaat tgcccaaacc aaaaggataa tttgctgagg 300
 ttgtggagct tctcccctgc agagagtccc tgatctccca aaatttggtt gagatgtaag 360
 gntgattttg ctgacaactc cttttctgaa gttttactca tttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A,T,C or G

<400> 403
 cagtatttat agccnaactg aaaagctagt agcaggcaag tctcaaattcc aggcacccaa 60
 tcctaagcaa gagccatggc atggtgaaaa tgcaaaaggaa gagtctggcc aatctacaaa 120
 tagagaacaa gacctactca gtcataaaca aaaaggcaga caccaacatg gatctcatgg 180
 gggattggat attgtaatta tagagcagga agatgacagt gatcgtcatt tggcacaaca 240
 tcttaacaac gaccgaaacc cattatttac ataaacctcc attcggtaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtggattt tgaaaattct tagaggaaag taaaggaaaa 60
 attgttaatg cactcattta cctttacatg gtgaaagtcc tctcttgatc ctacaaacag 120
 acattttcca ctctgtgttc catagtgtgt aagtgtatca gatgtgttgg gcatgtgaat 180
 ctccaagtgc ctgtgtaata aataaagtat ctttatttca ttcatt 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A,T,C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
 ttcaatacac ctccccccat agtgaatcag cttccagggg gtccagtccc tctccttact 120
 tcatccccat cccatgccaa aggaagaccc tccctccttg gtcacagcc ttctctaggc 180
 ttccacgtgc ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagtgt 240
 ctggtgcggt tgtgctcca gcttctgctc agtgcttcat ggacagtgtc cagcccatgt 300
 cactctccac tctctcanng tggatccac ccct 334

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 ttctacacct aatgagggag ttganatnac atnnaaccag gaaatgcatg gatctcaang 60
 gaaacaaaca cccaataaac tcggagtggc agactgacaa ctgtgagaca tgcaattgct 120
 acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtatcatc tgcattcatt gaagcacaag aacttcatgc cttgactcat 60
 gtaaatgcaa taggattaaa aaataaattt gatatcacat ggaaacagac aaaaaatatt 120
 gtacaacatt gcacccagtgc tcagattcta cacctggcca ctcaggaagc aagagttaat 180
 cccagaggtc tatgtcctaa tgtgttatgg caaatggatg tcatgcacgt accttcattt 240
 ggaaaattgt cattttgtcca tgtgacagtt gatacttatt cacatttcat atgggcaacc 300
 tgccagacag gagaaaagtct tcccatgtta aaagacattt attatcttgt tttcctgtca 360
 tgggagttcc agaaaaagtt aaaacagaca atggggccagg ttctgtagta aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggagctngcc ctcaattcct ccatntctat gttancatat ttaatgtctt ttgnnattaa 60
 tncctaacta gttaatcctt aaagggctan ntaatcctta actagtcctt ccattgtgag 120
 cattatcctt ccagtattcn ccttctnttt tattttactcc ttcttggtta cccatgtact 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 cccacgcatg ataagctctt tatttctgta agtctgtgta ggaaatcatc aaatctgacg 60
 gtgggtttggg ggacctgaac aaacctcctg taattaatca gctttcagtt tctcccccta 120
 gtccctcctt caacaacata ggaggatcct ccccttcttt ctgtctacgg ccttatctag 180
 gcttcccagt gccccagga cagcgtgggc tatgtttaca gcgcntcctt gctggggggg 240
 ggccntatgc 250

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A,T,C or G

<400> 410
 ggctggtttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaaatggaa 60
 agtcttgcaa tcccatttgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccaggggacc ttggaaacag ttggcactgt aagggtgcttg ctccccaaga cacatcctaa 180
 aagggtgttgt aatgggtgaaa accgcttctt tctttattgc cccttcttat ttatgtgaac 240
 nactggttgg ctttttttgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tcntgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A,T,C or G

<400> 411
 agagatattn cttaggtnaa agttcataga gttcccatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaaatgtc tgaaatggaa cagattttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca attaccat cagttccagc 240
 cttctctcaa gngagggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A,T,C or G

<400> 412
 gttcaatggtt acctgacatt tctacaacac ccactcacc gatgtattcg ttgcccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aattgtgttt cttgcccagg aaatactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggaggggag 180
 ctgggagatt tcactgggta cattgaattc caaactacc cangcaatta ccagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A,T,C or G

<400> 413
aactcttaca atccaagtga ctcatctgtg tgcttgaatc ctttccactg tctcatctcc 60
ctcatccaag tttctagtac cttctctttg ttgtgaagga taatcaaact gaacaacaaa 120
aagtttactc tcctcatttg gaacctaaaa actctcttct tcctgggtct gagggctcca 180
agaatccttg aatcanttct cagatcattg gggacaccan atcaggaacc t 231

<210> 414

<211> 234

<212> DNA

<213> Homo sapiens

<400> 414
actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
gtgagccaag gagggagggt cttccttttg catgggatgg ggatgaagta aggagaggga 180
ctggaccccc tggaagctga ttcactatgg ggggagggtg attgaagtcc tcca 234

<210> 415

<211> 217

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(217)

<223> n = A,T,C or G

<400> 415
gcataggatt aagactgagt atcttttcta cattctttta acttttctaag gggcacttct 60
caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120
cacctagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcagaaaaat 180
antggattat aaaaaataac aattaagaaa aataatc 217

<210> 416

<211> 213

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(213)

<223> n = A,T,C or G

<400> 416
atgcataatnt aaagganact gcctcgcttt tagaagacat ctggnetgct ctctgcatga 60
ggcacagcag taaagctctt tgattcccag aatcaagaac tctccccttc agactattac 120
cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
atattggaac agatggagtc tctactacaa aag 213

<210> 417

<211> 303

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(303)

<223> n = A,T,C or G

<400> 417

nagtcttcag gccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

```

gtgggaaagg ctttactctg agttcaaato ttcaagccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggga agagcttcag gagggattcc cattatcaag 180
ttcatctagt ggtccacaca ggagagaaac cctataaatg tgagatatgt gggaagggct 240
tcantcaaag ttcgtatctt caaatccatc ngaaggncca cagtatanan aaacctttta 300
agt 303

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(328)
<223> n = A,T,C or G

```

```

<400> 418
tttttgccgg tgggtggggca gggacggggac angagtctca ctctgttgcc caggctggag 60
tgcacaggca tgatctcggc tcaactacaac ccctgcctcc catgtccaag cgattcttgt 120
gcctcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gctagttttt 180
gtatttttag tagagacagg gtttcacat gttggccagg ctggtctcaa actcctnacc 240
tcagnggtca ggctggtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300
aaagtgtan gattacaggc cgtgagcc 328

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> (1)...(389)
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag acggcctgtg gtccgcctcc cggcaaccaa gaagcctgca gtgccatag 60
acccctgagc catggactgg agcctgaaag gcagcgtaca ccctgctcct gatcttgctg 120
cttgtttcct ctctgtggct ccattcatag cacagttgtt gcaactgaggc ttgtgcaggc 180
cgagcaaggc caagctggct caaagagcaa ccagtcact ctgccacggg gtgccaggca 240
ccggttctcc agccaccaac ctcaactcgt cccgcaaagt gcacatcagt tcttctacce 300
taaaggtagg accaaagggc atctgctttt ctgaagtctt ctgctctatc agccatcacg 360
tggcagccac tcnngctgtg tcgacggcg 389

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttcctccta actcctgcca gaaacagctc tcctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgactttggg gtttcggcat ggagaccgaa 180
gtccattga cacctttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attcttgaat ggtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgtatg acaaacctgg caagcccg 408

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```

<220>
<221> misc_feature
<222> (1)...(352)
<223> n = A,T,C or G

<400> 421
gctcaaaaat ctttttactg atnggcatgg ctacacaatc attgactatt acggaggcca 60
gaggagaatg aggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
ttcactgaca gaacaggtct tttttgggtc cttcttctcc accacnatac acttgacgtc 180
ctccttcttg aagattcttt ggcagttgtc tttgtcataa cccacaggtg tagaaacaag 240
ggtgcaacat gaaatttctg tttcgtagca agtgcattgc tcacaagttg gcangtctgc 300
cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttcct gg 352

<210> 422
<211> 337
<212> DNA
<213> Homo sapiens

<400> 422
atgccaccat gctggcaatg cagcggggcg tccaaggcct gcataatccag cccaagctgg 60
cgatgatcga cggcaaccgt tgcccgaagt tgccgatgcc agccgaagcg gtggtcaagg 120
gcgatagcaa ggtgccggcg atcgccggcg cgtcaatcct ggccaaggct agccgtgatc 180
gtgaaatggc agctgtcgaa ttgatctacc cgggttatgg catcggcggg cataagggtc 240
atccgacacc ggtgcacctg gaagccttgc agcggctggg gccgacgccg attcaccgac 300
gcttcttccg ccggtacggc tggcctatga aaattat 337

<210> 423
<211> 310
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(310)
<223> n = A,T,C or G

<400> 423
gctcaaaaat ctttttactg atatggcatg gctacacaat cattgactat tagaggccag 60
aggagaatga ggcctggcct gggagccctg tgcctactan aagcncatta gattatccat 120
tcactgacag aacaggtctt ttttgggtcc ttcttctcca ccacgatata cttgcagtc 180
tccttcttga agattctttg gcagttgtct ttgtcataac ccacaggtgt anaaacaagg 240
gtgcaacatg aaatttctgt ttcgtagcaa gtgcatgtct cacagttgtc aagtctgccc 300
tccgagttaa 310

<210> 424
<211> 370
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(370)
<223> n = A,T,C or G

<400> 424
gctcaaaaat ctttttactg ataggcatgg ctacacaatc attgactatt agaggccaga 60
ggagaatgag gcctggcctg ggagccctgt gcctactaga agcacattag attatccatt 120
cactgacaga acaggtcttt tttgggtcct tcttctccac cacgatatac ttgcagtcct 180
ccttcttgaa gattcttttg cagttgtctt tgtcataacc cacaggtgta gaaacatcct 240
ggttgaatct cctggaactc cctcattagg tatgaaatag catgatgcat tgcataaagt 300
cacgaagggt gcaaagatca caacgctgcc cagganaaca ttcattgtga taagcaggac 360
tccgtcgacg 370

136

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttg ccactcaaaa taattaccaa aaaaaaaaaa tnttaaata 60
 taacaacnca acatcaaggn aaananaaca ggaatggntg actntgcata aatnggccga 120
 anattatcca ttatnttaag gggtgacttc aggntacagc acacagacaa acatgcccag 180
 gaggnntntca ggaccgctcg atgtntntng aggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 cttccagtgga ggataaccct gttgccccgg gccgagggttc tccattaggc tctgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggg tcgctggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatgggtga 180
 gctgtccttg tattttgatt aacctaattg ccttcccagc acgactcgga ttcagctgga 240
 gacatcacgg caacttttaa tgaaatgatt tgaagggccca ttaagaggca cttcccgtta 300
 ttaggcagtt catctgcact gataacttct tggcagctga gctggtcgga gctgtggccc 360
 aaacgcacac ttggcttttg gttttgagat acaactctta atcttttagt catgcttgag 420
 ggtggatggc cttttcagct ttaacccaat ttgcactgcc ttggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggc cacagcagat gtcattggtc tactgcctga 540
 gtcccgtctg tcccatccca ggaccttcca tcggcgagta cctgggagcc cgtgct 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaagaattca agttaggttt attcaaaggc cttacngaga atcctanacc caggncccag 60
 cccgggagca gccttanaga gtcctgttt gactgcccgg ctcagng 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcna anaangactt tattcactat ttacatt

38

<210> 429

<211> 544
 <212> DNA
 <213> Homo sapiens

<400> 429
 ctttgctgga cggaataaaa gtggacgcaa gcatgacctc ctgatgaggg cgctgcattt 60
 attgaagagc ggctgcagcc ctgcggttca gattaaaatc cgagaattgt atagacgccg 120
 atatccacga actcttgaag gactttctga tttatccaca atcaaatcat cggttttcag 180
 tttggatggg ggctcatcac ctgtagaacc tgacttggcc gtggctggaa tccactcgtt 240
 gccttccact tcagttacac ctcaactcacc atcctctcct gttgggttctg tgctgcttca 300
 agatactaag cccacatttg agatgcagca gccatctccc ccaattcctc ctgtccatcc 360
 tgatgtgcag ttaaaaaaatc tgccctttta tgatgtcctt gatgttctca tcaagcccac 420
 gagtttagtt caaagcagta ttcagcgatt tcaagagaag ttttttattt ttgctttgac 480
 acctcaacaa gttagagaga tatgcatatc cagggatttt ttgccagggtg gtaggagaga 540
 ttat 544

<210> 430
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 430
 cttatcncaa tggggctccc aaacttggct gtgcagtggg aactccgggg gaattttgaa 60
 gaacactgac acccatcttc caccgcgaca ctctgattta attgggctgc agtgagaaca 120
 gagcatcaat ttaaaaagct gcccagaatg ttntcctggg cagcgttgtg atctttgccn 180
 ccttcgtgac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240
 attcaaccag gatgtttcta cncctgtggg ttatgacaaa gacaactgcc aaagaatntt 300
 caagaaggag gactgcaagt atatcgtggg ggagaagaag gacccaaaaa agacctgttc 360
 tgtcagttaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
 cattctcctc tggcctctaa tagtcaatga ttgtgtagcc atgcctatca gtaaaaaagat 480
 ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
 <211> 392
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(392)
 <223> n = A,T,C or G

<400> 431
 gaaaattcag aatggataaa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
 aaacaagaaa gcacttatca ggaggactta caaatggaag tacactctan aaccatcatc 120
 tatcatggct aaatgtgaga ttagcacagc tgtattattt gtacattgca aacacctaga 180
 aagagatggg aaacaaaatc ccaggagttt tgtgtgtgga gtcctgggtt ttccaacaga 240
 catcattcca gcattctgag attaggngga ttggggatca ttctggagtt ggaatgttca 300
 acaaaaagta tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
 gcaatgagtc tggctttttac tctgctgttt ct. 392

<210> 432
 <211> 387
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc_feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 432

```

ggtatccnta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aaatgcaagg caacatgtgt agatctcttg tcttattctt ttgtctataa tactgtattg 120
ngtagtccaa gctctcggn a gtcagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tattttgctt ctgtctgnga 240
attctgttgc ttctggggca tttccttgng atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
acaacgtata gaacactgga gtccttt 387

```

<210> 433
 <211> 281
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(281)
 <223> n = A,T,C or G

<400> 433

```

ttcaactagc anagaanact gcttcagggn gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattaaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgctggag 180
atcgccgtgg ctattcctcn ttgntattac accagnaggg ntctctgtnt gccactgggt 240
tnnaaaaccg ntatacaata atgatagaat aggacacaca t 281

```

<210> 434
 <211> 484
 <212> DNA
 <213> Homo sapiens

<400> 434

```

ttttaaaata agcatttagt gctcagtcct tactgagtag tctttctctc cctcctctctg 60
aatttaattc tttcaacttg caatttgcaa ggattacaca tttcactgtg atgtatattg 120
tggtgcaaaa aaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatgggtc tcagaacccat ttcaccaga 300
cagcctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgctccaatc tgtcacataa aagtctgtga cttgaagttt agtcagcacc cccaccaaac 420
tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag tacccatgtc 480
ttta 484

```

<210> 435
 <211> 424
 <212> DNA
 <213> Homo sapiens

<400> 435

```

gcgcgctca gagcagggtca ctttctgect tccacgtcct ccttcaagga agccccatgt 60
gggtagcttt caatatcgca ggttcttact cctctgcctc tataagctca aaccaccaa 120
cgatcgggca agtaaaccct ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggcctgt ggggaggggg caagatagat gagggggagc ggcatgggtgc ggggtgacct 240
cttgagaga ggaaaaaggc cacaagaggg gctgccaccg cactaacgg agatggccct 300
ggtagagacc tttgggggtc tggaacctct ggactcccca tgctctaact cccacactct 360
gctatcagaa acttaaacctt gaggattttc tctgtttttc actcgcaata aattcagagc 420
aaac 424

```

<210> 436

<211> 667
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(667)
<223> n = A,T,C or G

<400> 436
acccttgggaa nactctcaca atataaaaggg tcgtagactt tactccaaat tccaaaaagg 60
tcctggccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataagggtgc 120
agcctcttct ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaacgaggg 180
cagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
atgggctgcc agagtaggat aggattccag atgctgacac cttctggggg aaacaggggt 300
gccaggtttg tcatagcact catcaaagtc cggtcacgt ctgtgcttcg aatataaacc 360
gtttcatgtt tataggactc attcaagaat tttctatate tctttcttat atactctcca 420
agttcataat gctgctccat gccagctgg gtgagttggc caaatccttg tggccatgag 480
gattccttta tggggtcagt gggaaagggt tcaatgggac ttcggtctcc atgccgaaac 540
accaaagtca caaacttcaa ctcttgggt agtacacttc ggtctagcca gaaaaaaagc 600
agaacaaga agccaaggct aaggcttgct gccctgccag gaggaggggt gcagctctca 660
tgttgag 667

<210> 437
<211> 693
<212> DNA
<213> Homo sapiens

<400> 437
ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaagatat taagtgactc 60
acacagccag gtaaggaaag ctggattggc acactaggac tctaccatac cgggttttgt 120
taaagctcag gttaggaggc tgataagctt ggaaggaaact tcagacagct ttttcagatc 180
ataaaaagata attcttagcc catgttcttc tccagagcag acctgaaatg acagcacagc 240
aggtaactct ctattttcac cctcttgct tctactctct ggcagtcaga cctgtgggag 300
gccatgggag aaagcagctc tctggatgtt tgtacagatc atggactatt ctctgtggac 360
catttctcca ggttacceta ggtgtcacta ttggggggac agccagcatc tttagctttc 420
atttgagttt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
acacctaact gctgttgctc ctgaggtggg gaaagacaga tatagagctt acagtattta 540
tcctatttct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatcctgttt 600
taaggacatg ttgcttcaga gatgtctgta actatctggg ggctctgttg gctctttacc 660
ctgcatcatg tgctctcttg gctgaaaatg acc 693

<210> 438
<211> 360
<212> DNA
<213> Homo sapiens

<400> 438
ctgcttatca caatgaatgt tctcctgggc agcgttggtga tctttgccac cttcgtgact 60
ttatgcaatg catcatgcta tttcatacct aatgagggag ttccaggaga ttcaaccagg 120
atgtttctac acctgtgggt tatgacaaaag acaactggcca aagaatcttc aagaaggagg 180
actgcaagta tatctgggtg agaagaagga cccaaaaaag acctgttctg tcagtgaatg 240
gataatctaa tctgcttcta gtaggcacag ggctcccagg ccaggcctca ttctcctctg 300
gcctctaata gtcaataatt gtgtagccat gcctatcagt aaaaagattt ttgagcaaac 360

<210> 439
<211> 431
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (1)...(431)

<223> n = A,T,C or G

<400> 439

```

gttcctnnta actcctgcc a gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccattga cacttttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcgcccgcg 420
aatttagtag t

```

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```

agagataaag cttagggtcaa agttcataga gttcccatga actatatgac tggccacaca 60
ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
tttaaatgtc tgaaatggaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggagaggcaa agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctactatc tgtttttata tttctgttaa aatatatgag gctacagaac 360
taaaaaattaa aacctctttg tgtcccttgg tcttggaaaca tttatgttcc ttttaaagaa 420
acaaaaatca aacttttacag aaagatttga tgtatgtaac acatatagca gctcttgaag 480
tatatatatc atagcaaata agtcacttga tgagaacaag cta

```

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```

gttcctccta actcctgcc a gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gctttttttc tggctagacc 120
gaagtgtact agccaaggag ttgaagtttg tgacttttgt gtttcggcat ggagaccgaa 180
gtcccattga cacttttccc actgacccca taaaggaatc ctcatggcca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attccttgaat gagtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgtcga cgcgcccgcg 420
aatttagtag

```

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

```

ctaaggaatt agtagtggtc ccatcacttg tttggagtgt gctattctaa aagattttga 60
tttcctggaa tgacaattat attttaactt tgggtgggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaactt ttattgcact tgttttgacc attagctat 180
atgttttaga atgggtcattt tacggaaaaa ttgaaaaaat tctgataata gtgcagaata 240
aatgaattaa tgttttactt aatttatatt gaactgtcaa tgacaaataa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaactaag aattaaaagt ttgattacag 360
tc

```

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443
 tttttttttt gcaacacaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
 ttgaaagaat taaattcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
 aatgcttatt ttaaaagaaa tgtaaagagc agaaagcaat tcaggctacc ctgccttttg 180
 tgctggctag tactccggtc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
 cccaaaccac agaaaatggg gtgaaattgg ccactttct attaaacttg cttcctgttt 300
 tataaaatat tgtgaataat atcacctact tcaaagggca gttatgaggc ttaaatgaac 360
 taacgcctac aaaacactta aacatagata acatagggtgc aagtactatg tatctggtac 420
 atggtaaaca tccttattat taaagtcaac gctaaaatga atgtgtgtgc atatgctaata 480
 agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaga 540
 ngatgcttgt gctgggtcca aatcttggtc tactatgacc ttggccaaat tatttaaact 600
 ttgtccctat ctgctaaaca gatc 624

<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 444
 gcacatcatt nntcttgcatt tctttgagaa taagaagatc agtaaatagt tcagaagtg 60
 gaagctttgt ccaggcctgt gtgtgaaccc aatgttttgc ttagaaatag aacaagtaag 120
 ttcattgcta tagcataaca caaaatttgc ataagtgtg gtcagcaaat ccttgaatgc 180
 tgcttaatgt gagagggttg taaaatcctt tgtgcaacac tctaactccc tgaatgtttt 240
 gctgtgctgg gacctgtgca tgccagacaa ggccaagctg gctgaaagag caaccagcca 300
 cctctgcaat ctgccacctc ctgctggcag gatttgtttt tgcacacctg gaagagccaa 360
 ggaggcacca gggcataagt gagtagactt atggtcgacg cggccgcgaa ttagtagta 420
 gtaga 425

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 445
 catgtttatg nttttggatt actttgggca cctagtgttt ctaaactcgtc tatcattctt 60
 ttctgttttt caaaagcaga gatggccaga gtctcaacaa actgtatctt caagtctttg 120
 tgaattcttt tgcattgtgc agattatttg atgtagtttt ctttaactag catataaatc 180
 tgggtgtgtt cagataaatg aacagcaaaa tgtggtggaa ttaccatttg gaaccattgtg 240
 aatgaaaaat tgtgtctcta gattatgtaa caaataacta tttcctaacc attgatcttt 300
 ggatttttat aatcctactc acaaatagact aggtctctcc tcttgtattt tgaagcagt 360
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<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(631)
 <223> n = A,T,C or G

<400> 446
 acaaattaga anaaagtgcc agagaacacc acataccttg tccggaacat tacaatggct 60
 tctgcatgca tgggaagtgt gagcattcta tcaatatgca ggagccatct tgcaggtgtg 120
 atgctgggta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
 ccggtcctgt acgatttcag tatgtcttaa tcgcagctgt gattggaaca attcagattg 240
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 gacagaagca aaatacaggg cactacagtt cagacaatac aacaagagcg tccacgaggt 420
 taatctaaag ggagcatggt tcacagtggc tggactaccg agagcttggga ctacacaata 480
 cagtattata gacaaaagaa taagacaaga gatctacaca tgttgccctg catttggtgt 540
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<210> 447
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(585)
 <223> n = A,T,C or G

<400> 447
 ccttgggaaa antntcacaa tataaagggt cgtagacttt actccaaatt ccaaaaaggt 60
 cctggccatg taatcctgaa agttttccca aggtagctat aaaatcctta taagggtgca 120
 gcctcttctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
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 ccaggtttgt catagcactc atcaaagtcc ggtcaacgtc tgtgcttcga atataaacct 360
 gttcatgttt ataggactca ttcaagaatt ttctatatct ctttcttata tactctccaa 420
 gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
 attcctttat ggggtcagtg ggaaagggtg caatgggact tcggtctcca tgccgaaaca 540
 ccaaagtcac aaacttcaac tccttggcta gtacacttcg gtcta 585

<210> 448
 <211> 93
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(93)
 <223> n = A,T,C or G

<400> 448
 tgctcgtggg tcattctgan nnccgaactg acctgtccag ccctgccgan gggccnccat 60
 ggctccctag tgccctggag agganggggc tag 93

<210> 449
 <211> 706
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

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cctggagagg aggtgtctag tcagagagta gtccctggaag gtggcctctg ngaggagcca 180
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cactgagcag acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncccca 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncccca 660
gcatggatga cagagtgaaa ctccatctta aaaaaaaaaa aaaaaa 706

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<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

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acagttttta aaggtaaaac aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacat gtcgccaata tcaactgcatg 180
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agagacactg tcagagagtt aaaaagttag ttctatccat gaggtgattc cacagtcttc 360
tcaagtcaac acatctgtga actcacagac caagttctta aaccactgtt caaactctgc 420
tacacatcag aatcacctgg agagctttac aaactcccat tgccgagggg cgacgcgggc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

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ctcttcgcta ttacgccagc tggcgaaagg gggatgtgct gcaaggcgat taagttgggt 120
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tggagagtga catgtgctgg acnctgtcca tgaagcactg agcagaagct ggaggcacia 360
cgcncacagc actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggcnctgcn ccccagcatg gatgacagag tgaactcca 480
tcttaaaaaa aaaaaaaaaa a 501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapi ns

<220>

<221> misc_feature

<222> (1)...(51)

144

<223> n = A,T,C or G

<400> 452

agacggtttc accnttacaa cnccttttag gatgggnntt ggggagcaag c

51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

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ttcacccana	cagcctgttt	ctatcctgtt	taataaatta	gtttgggttc	tctacatgca	180
taacaaaccc	tgtctcaatc	tgtcacataa	aagtctgtga	cttgaagttt	antcagcacc	240
cccaccaaac	tttatttttc	tatgtgtttt	ttgcaacata	tgagtgtttt	gaaaataagg	300
tacctatgtc	tttatta					317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcgaggtac	aatcaactct	cagagtgtag	tttccttcta	tagatgagtc	agcattaata	60
taagccacgc	cacgtctctg	aaggagtctt	gaattctcct	ctgctcactc	agtagaacca	120
agaagaccaa	attcttctgc	atcccagctt	gcaaacaaaa	ttgttcttct	aggtctccac	180
ccttcctttt	tcagtgttcc	aaagctcctc	acaatttcat	gaacaacagc	t	231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccaagag	ggcataataa	tcagtctcac	agtaggggtc	accatcctcc	aagtgaaaaa	60
cattgttccg	aatgggcttt	ccacaggcta	cacacacaaa	acaggaaaca	tgccaagttt	120
gtttcaacgc	attgatgact	tctccaagga	tcttcctttg	gcacgacca	cattcagggg	180
caaagaattt	ctcatagcac	agctcacaat	acagggtctc	tttctcctct	a	231

<210> 456

<211> 231

<212> DNA

<213> Homo sapiens

<400> 456

ttggcaggta	cccttacaaa	gaagacacca	taccttatgc	gttattaggt	ggaataatca	60
ttccattcag	tattatcggt	attattcttg	gagaaaccct	gtctgtttac	tgtaaccttt	120
tgcactcaaa	ttcctttatc	aggaataact	acatagccac	tatttacaaa	gccattggaa	180
cctttttatt	tggtgcagct	gctagtcagt	ccctgactga	cattgccaag	t	231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

145

<221> misc_feature
<222> (1)...(231)
<223> n = A,T,C or G

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tatttgattt tattagcaat ctctttcaga agacccttga gatcattaag ctttgtatcc 180
agttgtctaa atcgatgcct catttctctt gaggtgtcgc tggcttttgt g 231

<210> 458
<211> 231
<212> DNA
<213> Homo sapiens

<400> 458
aggtctgggt cccccactt ccactcccct ctactctctc taggactggg ctgggccaaag 60
agaagagggg tgggttaggga agccgttgag acctgaagcc ccaccctcta ctttccttca 120
acaccctaac cttgggtaac agcatttga attatcattt gggatgagta gaatttccaa 180
ggctctgggt taggcatttt ggggggccag accccaggag aagaagattc t 231

<210> 459
<211> 231
<212> DNA
<213> Homo sapiens

<400> 459
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ccttcgagaa acctgtgggt gccaccagt cctaacggga caggacagag agacagagca 120
gccctgcaat gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
actatacaca gtcaccgtcc caatgagaaa caagaaggag caccctccac a 231

<210> 460
<211> 231
<212> DNA
<213> Homo sapiens

<400> 460
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cccacctccc cacacgcaca cggccagcct ggagcccaca gaagggtcct cctgcagcca 180
gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231

<210> 461
<211> 231
<212> DNA
<213> Homo sapiens

<400> 461
cgaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
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gtggggttca gtgaggagt ggaaattggt tcagcagaac caagccgttg ggtgaataag 180
agggggattc catggcactg atagagccct atagtttcag agctgggaat t 231

<210> 462
<211> 231
<212> DNA
<213> Homo sapiens

<400> 462
aggtaccctc attgtagcca tgggaaaatt gatgttcagt ggggatcagt gaattaaatg 60
gggtcatgca agtataaaaa ttaaaaaaaa aagacttcat gcccaatctc atatgatgtg 120

146

gaagaactgt tagagagacc aacagggttag tggggttagag atttccagag tcttacattt 180
tctagaggag gtattttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

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catttgacag gtgtcttttc ctctggaccc cggtgtcccc atctgagtga gaaaaggcag 180
tggggagggtg gatcttccag tcgaagcggt atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

gtactctaag attttatcta agttgccttt tctgggtggg aaagttaaac cttagtgtact 60
aaggacatca catatgaaga atgtttaagt tggaggtggc aacgtgaatt gcaaacaggg 120
cctgttcag tgactgtgtg cctgtagacc cagctactcg ggagtctgtg tgaggccagg 180
ggtgccagcg caccagctag atgtctgtga acttctaggc cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

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taaactggag acatgcagga cattagggtg gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

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cctgtgcaat caaatattgt ggagaattcc cttagctggag aagtcacaaa gactataggc 180
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<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

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<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

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ggtcacctga ggtcaggagt tcaagaccag cctggccaat atggtgaaac cccatctcta 2160
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aatggaatt
2229

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<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

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caaaattcta aagcgactc accatgaaat ggataaagg tacccttggg gatttgact 180
gcatgaattc tgtgaaaagc ttgttgata ttgtgataga gatagagaaa tgaagtatat 240
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ccataaacat tccctctgtg gctcttgcac ttcatatatt tatctaaact cttataatca 360
aattacactt ttagtatttg ctgtctcatg tgatgatgaa tctcatatgt gtcccttctt 420
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aaaaagttaa tcctgtgata ttaatggaaat gacattttga ggtcttgaga atgggcacaa 840
aagtgggaaa tgaatttcag tatgggcaaa gacactgagg atgatgttga ttagataatt 900
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ggagaatggt gggcccagaa ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttagaaa tatgaaatga tttggttatg aacgcacagt ttaggcagca gggccagaat 1260
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ctgaggtcag gagttcaaga ccagcctggc caatatggtg aaaccccatc tctaataaaa 2160
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tgactcga cctgggcgac agagtggaa tctgtttcca aaaaacaaac aaacaaaaaa 2340
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<210> 471

<211> 812

<212> DNA

<213> Homo sapiens

<400> 471

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gagatcagat attacaacag ctttgttttg agggtagaa atatgaaatg atttgggtat 180
gaacgcacag tttaggcagc agggccagaa tcctgaccct ctgccccgtg gttatctcct 240
ccccgcttg gctgcctcat gtcacacag tattccattt tgtttgttgc atgtctgtg 300
aagccatcaa gattttctog tctgttttcc tctcattggt aatgctcact ttgtgacttc 360
atttcaaate tgtaatcccg ttcaaataaa tatccacaac aggatctgtt ttctgccc 420
tcctttaagg aacacatcaa ttcatthtct aatgtccttc cctcacaagc gggaccaggc 480
acagggcgag gctcatcgat gacccaagat ggccggccgg catttctccc agggatctct 540
gtgcttcctt ttgtgcttcc tgtgtgtgtg gatattttaa ggggctggaa atgtgcaaaa 600
acatgtcact acttagacat tatattgtca tctagtgtt tctagtgtat ttaattatct 660
ccatttcagc agatgtgtgg cctcagatgg taaagtcagc agcctttctt atttctcacc 720
tctgtatcat caggctcttc ccaccatgca gatcttctg gtctccctcg gctgcagcca 780
cacaaatctc ccctctgttt ttctgatgcc ag

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<210> 472

<211> 515

<212> DNA

<213> Homo sapiens

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<223> n = A,T,C or G

<400> 472

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gttccagaat tattgttctt tgcagcccg tgaatctcag caagaggaa caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240

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150

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agtagaaggt gattgccagg aaatggatct ggaaaagact cggagtgagc gtggagatgg 300
ctctgatgta aaagagaaga ctccacctaa tcctaagcat gctaagacta aagaagcagg 360
agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
cattgaaaat gtgactgaaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
gaaaaaaaaa naaaaaaaaa aaanaaaan aaaaa

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515

<210> 473
 <211> 750
 <212> PRT
 <213> Homo sapiens

<400> 473

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Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
      35                      40                      45
Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
      50                      55                      60
Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
      65                      70                      75                      80
Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
      85                      90                      95
Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
      100                     105                     110
Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
      115                     120                     125
Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
      130                     135                     140
Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
      145                     150                     155                     160
Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
      165                     170                     175
Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
      180                     185                     190
Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
      195                     200                     205
Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
      210                     215                     220
Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
      225                     230                     235                     240
Ser Tyr Pro Asp Gly Trp Asn Leu Pro Gly Gly Val Gln Arg Gly
      245                     250                     255
Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

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260	265	270
Pro Ala Asn Glu Tyr Ala Tyr Arg Arg Gly Ile Ala Glu Ala Val Gly 275	280	285
Leu Pro Ser Ile Pro Val His Pro Ile Gly Tyr Tyr Asp Ala Gln Lys 290	295	300
Leu Leu Glu Lys Met Gly Gly Ser Ala Pro Pro Asp Ser Ser Trp Arg 305	310	315
Gly Ser Leu Lys Val Pro Tyr Asn Val Gly Pro Gly Phe Thr Gly Asn 325	330	335
Phe Ser Thr Gln Lys Val Lys Met His Ile His Ser Thr Asn Glu Val 340	345	350
Thr Arg Ile Tyr Asn Val Ile Gly Thr Leu Arg Gly Ala Val Glu Pro 355	360	365
Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe Gly 370	375	380
Gly Ile Asp Pro Gln Ser Gly Ala Ala Val Val His Glu Ile Val Arg 385	390	395
Ser Phe Gly Thr Leu Lys Lys Glu Gly Trp Arg Pro Arg Arg Thr Ile 405	410	415
Leu Phe Ala Ser Trp Asp Ala Glu Glu Phe Gly Leu Leu Gly Ser Thr 420	425	430
Glu Trp Ala Glu Glu Asn Ser Arg Leu Leu Gln Glu Arg Gly Val Ala 435	440	445
Tyr Ile Asn Ala Asp Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val 450	455	460
Asp Cys Thr Pro Leu Met Tyr Ser Leu Val His Asn Leu Thr Lys Glu 465	470	475
Leu Lys Ser Pro Asp Glu Gly Phe Glu Gly Lys Ser Leu Tyr Glu Ser 485	490	495
Trp Thr Lys Lys Ser Pro Ser Pro Glu Phe Ser Gly Met Pro Arg Ile 500	505	510
Ser Lys Leu Gly Ser Gly Asn Asp Phe Glu Val Phe Phe Gln Arg Leu 515	520	525
Gly Ile Ala Ser Gly Arg Ala Arg Tyr Thr Lys Asn Trp Glu Thr Asn 530	535	540
Lys Phe Ser Gly Tyr Pro Leu Tyr His Ser Val Tyr Glu Thr Tyr Glu 545	550	555
Leu Val Glu Lys Phe Tyr Asp Pro Met Phe Lys Tyr His Leu Thr Val 565	570	575
Ala Gln Val Arg Gly Gly Met Val Phe Glu Leu Ala Asn Ser Ile Val 580	585	590

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
 725 730 735
 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
 740 745 750

<210> 474

<211> 386

<212> PRT

<213> Homo sapiens

<400> 474

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 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

153

130 135 140
 Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
 145 150 155 160
 Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
 165 170 175
 Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
 180 185 190
 Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
 195 200 205
 Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
 210 215 220
 Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
 225 230 235 240
 Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
 245 250 255
 Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
 260 265 270
 Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
 275 280 285
 His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
 290 295 300
 Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
 305 310 315 320
 Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
 325 330 335
 His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
 340 345 350
 Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
 355 360 365
 Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
 370 375 380
 Thr Asp
 385

<210> 475
 <211> 261
 <212> PRT
 <213> Homo sapiens

<400> 475
 Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
 5 10 15
 Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
 20 25 30

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<211> 1079
<212> PRT
<213> Homo sapiens
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Leu Ser Val Thr Trp Ile Gly Ala Ala Pro Leu Ile Leu Ser Arg Ile
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Val Gly Gly Trp Glu Cys Glu Lys His Ser Gln Pro Trp Gln Val Leu
          35                      40                      45

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155

Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
 180 185 190
 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
 Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu
 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
 370 375 380

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
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 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
 500 505 510
 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr Ser
 675 680 685
 Val Tyr Ala Phe Met Ile Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705		710		715		720
Gln Glu Glu Cys	Leu Phe Gly Leu Leu	Thr Leu Ile Phe Leu	Thr Cys			
	725		730			735
Val Ala Ala Thr	Leu Leu Val Ala Glu	Glu Ala Ala Leu Gly	Pro Thr			
	740		745			750
Glu Pro Ala Glu	Gly Leu Ser Ala Pro	Ser Leu Ser Pro	His Cys Cys			
	755		760			765
Pro Cys Arg Ala	Arg Leu Ala Phe Arg	Asn Leu Gly Ala	Leu Leu Pro			
	770		775			780
Arg Leu His Gln	Leu Cys Cys Arg Met	Pro Arg Thr Leu	Arg Arg Leu			
	785		790			800
Phe Val Ala Glu	Leu Cys Ser Trp Met	Ala Leu Met Thr	Phe Thr Leu			
	805		810			815
Phe Tyr Thr Asp	Phe Val Gly Glu Gly	Leu Tyr Gln Gly	Val Pro Arg			
	820		825			830
Ala Glu Pro Gly	Thr Glu Ala Arg Arg	His Tyr Asp Glu	Gly Val Arg			
	835		840			845
Met Gly Ser Leu	Gly Leu Phe Leu Gln	Cys Ala Ile Ser	Leu Val Phe			
	850		855			860
Ser Leu Val Met	Asp Arg Leu Val Gln	Arg Phe Gly Thr	Arg Ala Val			
	865		870			875
Tyr Leu Ala Ser	Val Ala Ala Phe Pro	Val Ala Ala Gly	Ala Thr Cys			
	885		890			895
Leu Ser His Ser	Val Ala Val Val Thr	Ala Ser Ala Ala	Leu Thr Gly			
	900		905			910
Phe Thr Phe Ser	Ala Leu Gln Ile Leu	Pro Tyr Thr Leu	Ala Ser Leu			
	915		920			925
Tyr His Arg Glu	Lys Gln Val Phe Leu	Pro Lys Tyr Arg	Gly Asp Thr			
	930		935			940
Gly Gly Ala Ser	Ser Glu Asp Ser Leu	Met Thr Ser Phe	Leu Pro Gly			
	945		950			955
Pro Lys Pro Gly	Ala Pro Phe Pro Asn	Gly His Val Gly	Ala Gly Gly			
	965		970			975
Ser Gly Leu Leu	Pro Pro Pro Pro	Ala Leu Cys Gly	Ala Ser Ala Cys			
	980		985			990
Asp Val Ser Val	Arg Val Val Val Gly	Glu Pro Thr Glu	Ala Arg Val			
	995		1000			1005
Val Pro Gly Arg	Gly Ile Cys Leu Asp	Leu Ala Ile Leu	Asp Ser Ala			
	1010		1015			1020
Phe Leu Leu Ser	Gln Val Ala Pro Ser	Leu Phe Met Gly	Ser Ile Val			
	1025		1030			1035
						1040

Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
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Asp Leu Ala Lys Tyr Ser Ala
1075

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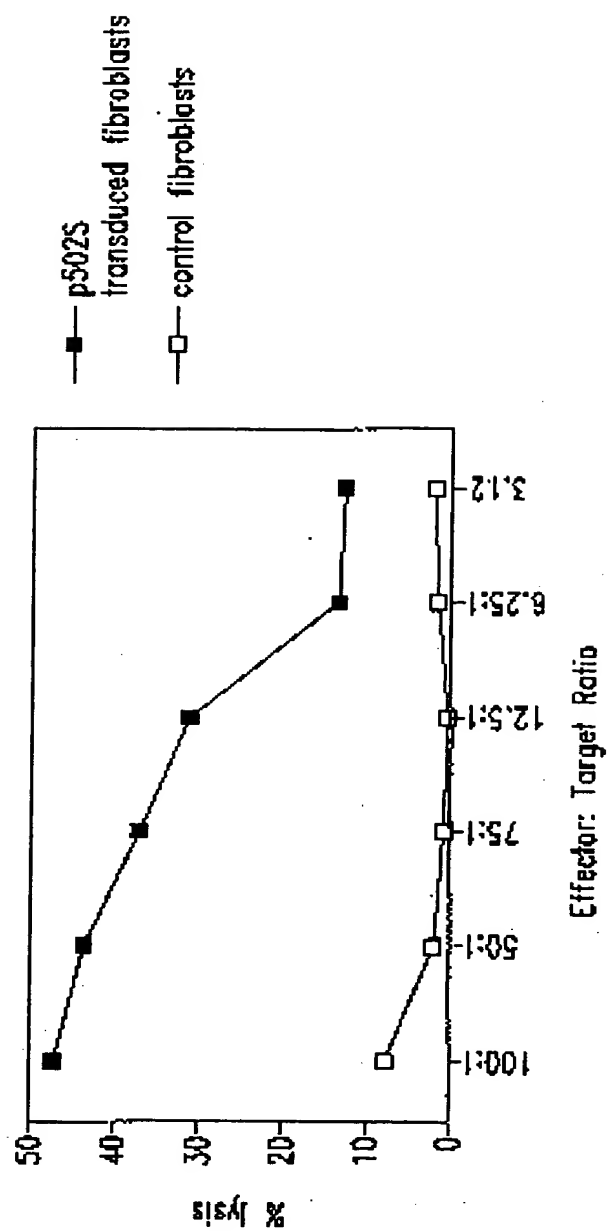
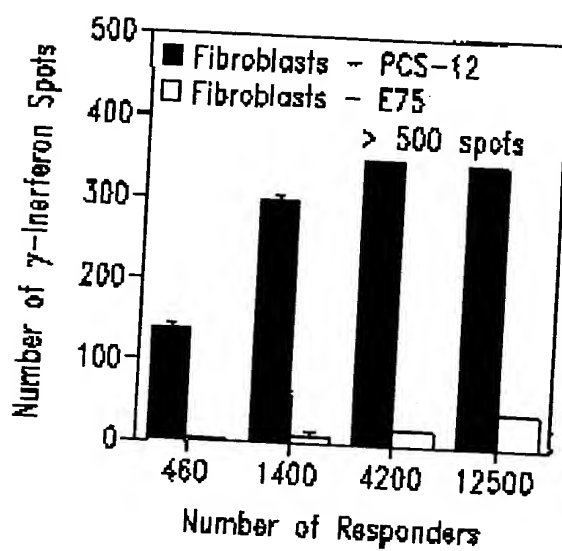
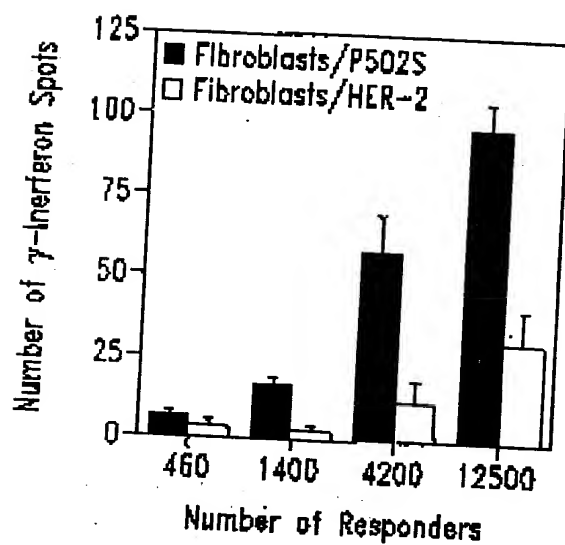


Fig. 1

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*Fig. 2A**Fig. 2B*

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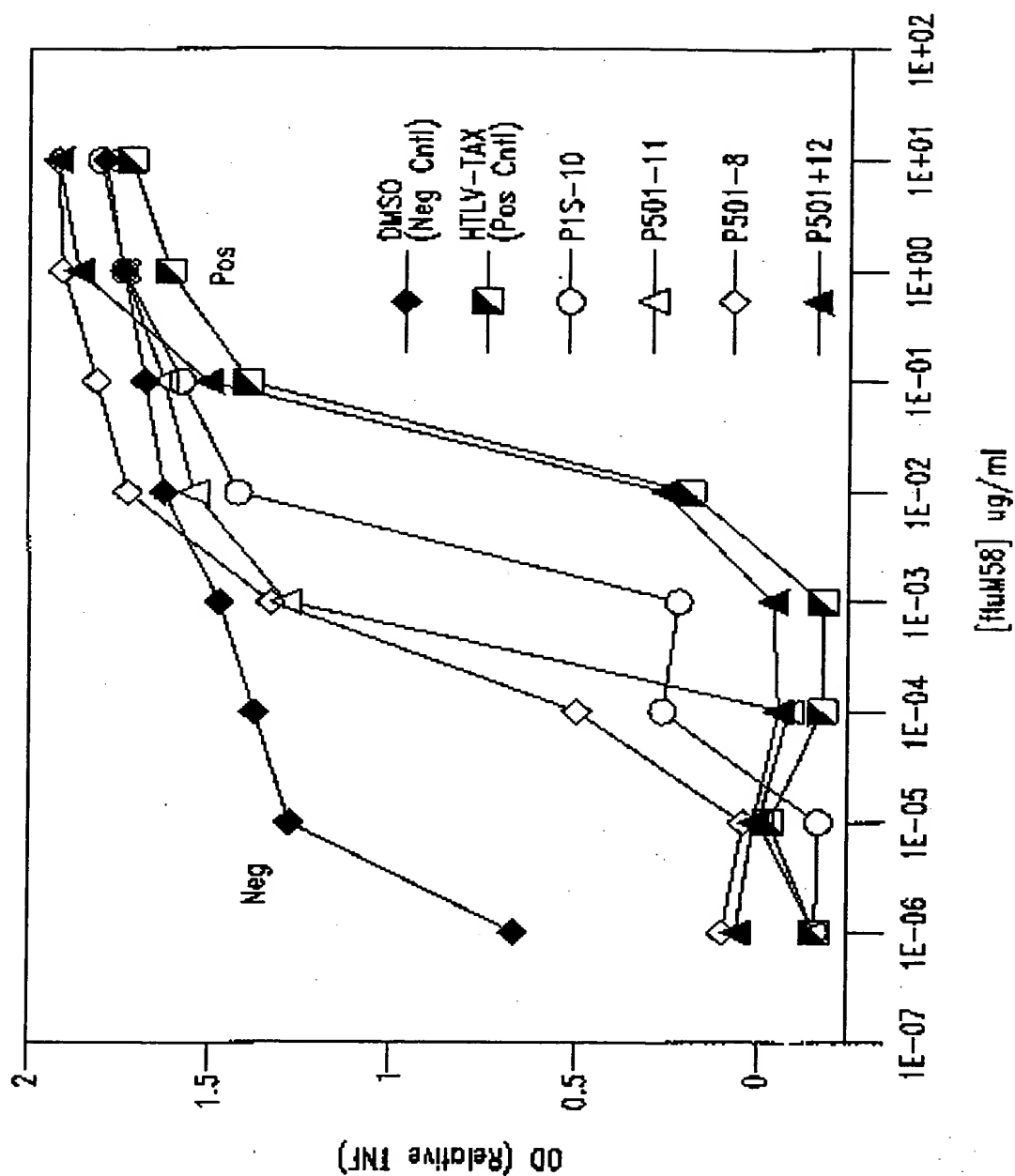


Fig. 3

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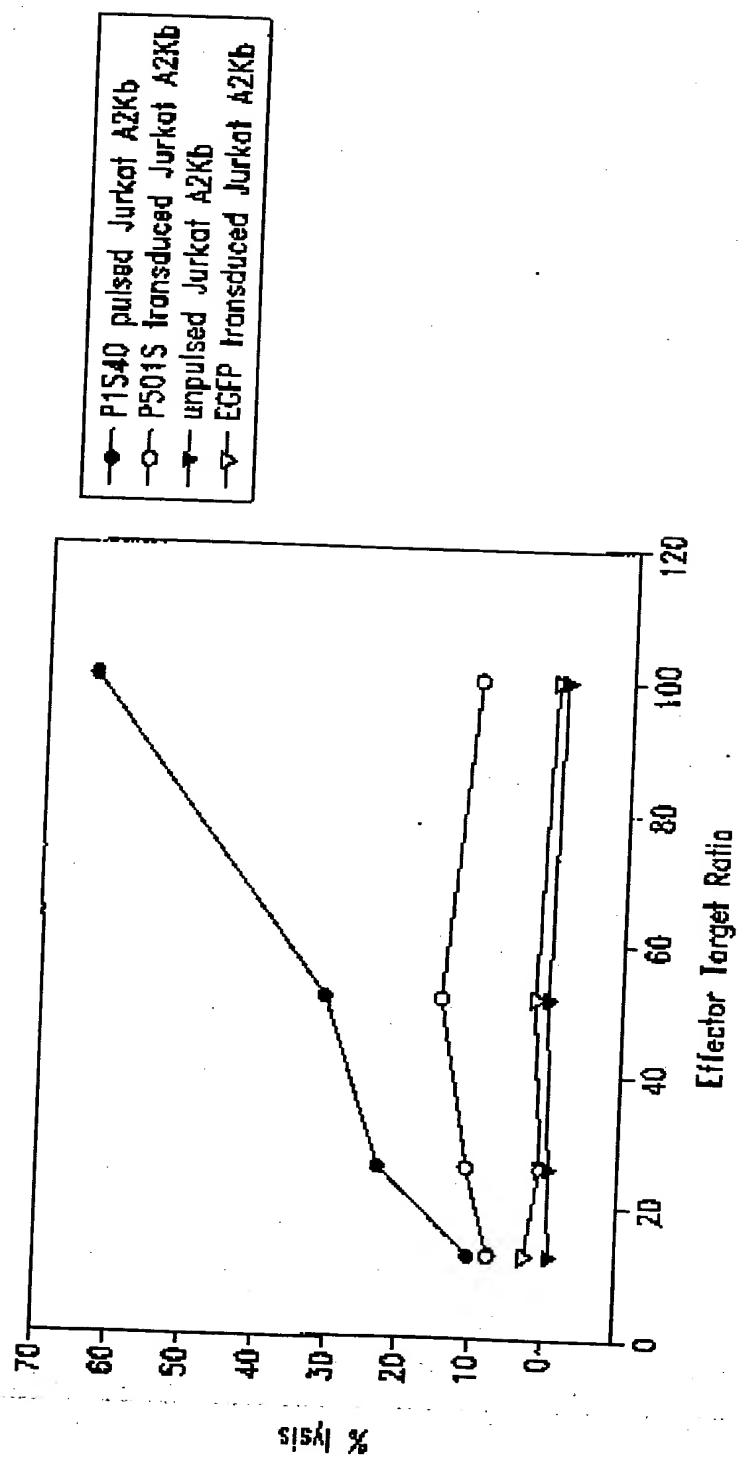


Fig. 4

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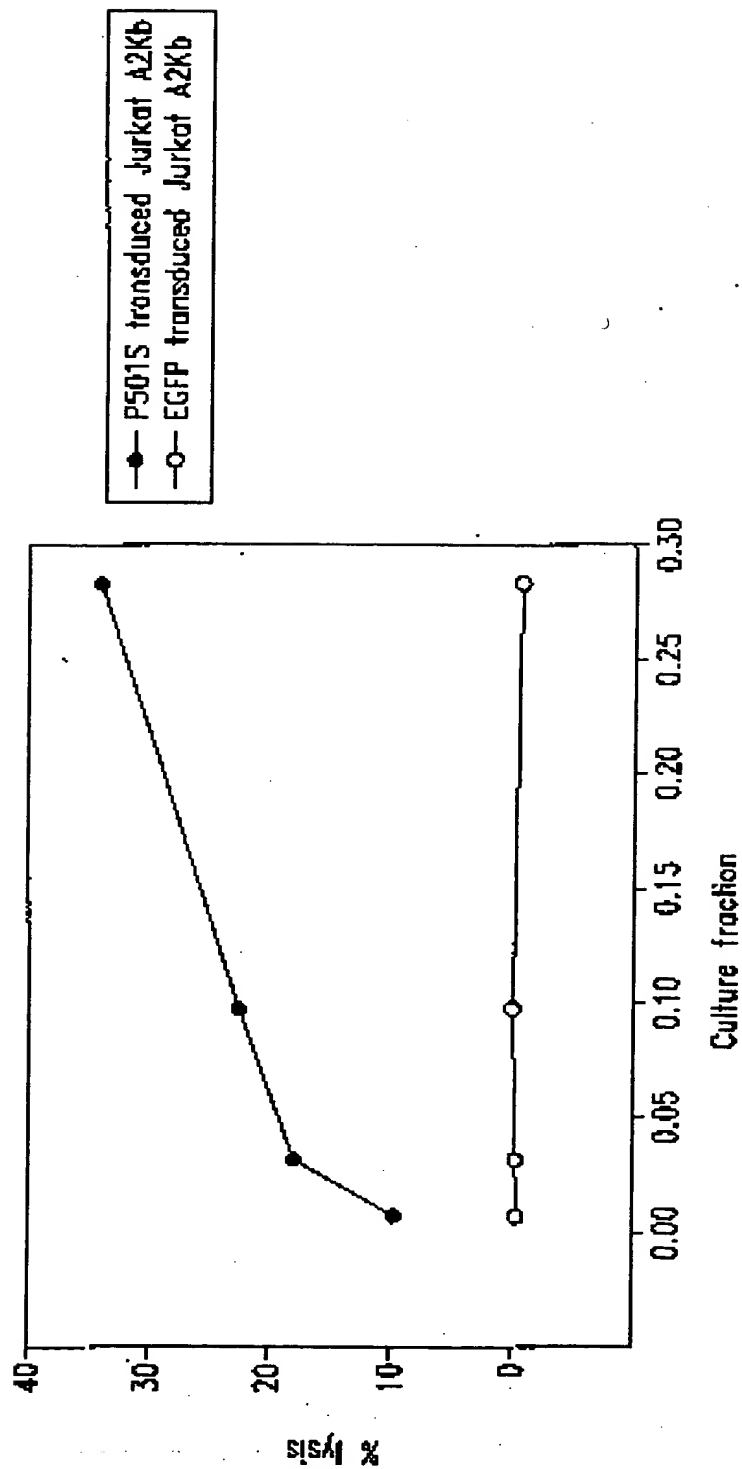


Fig. 5

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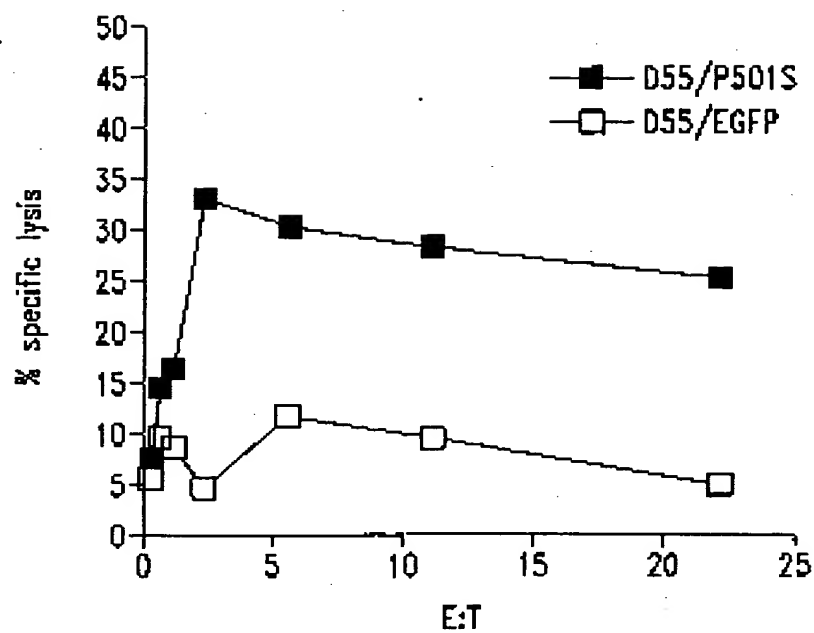


Fig. 6A

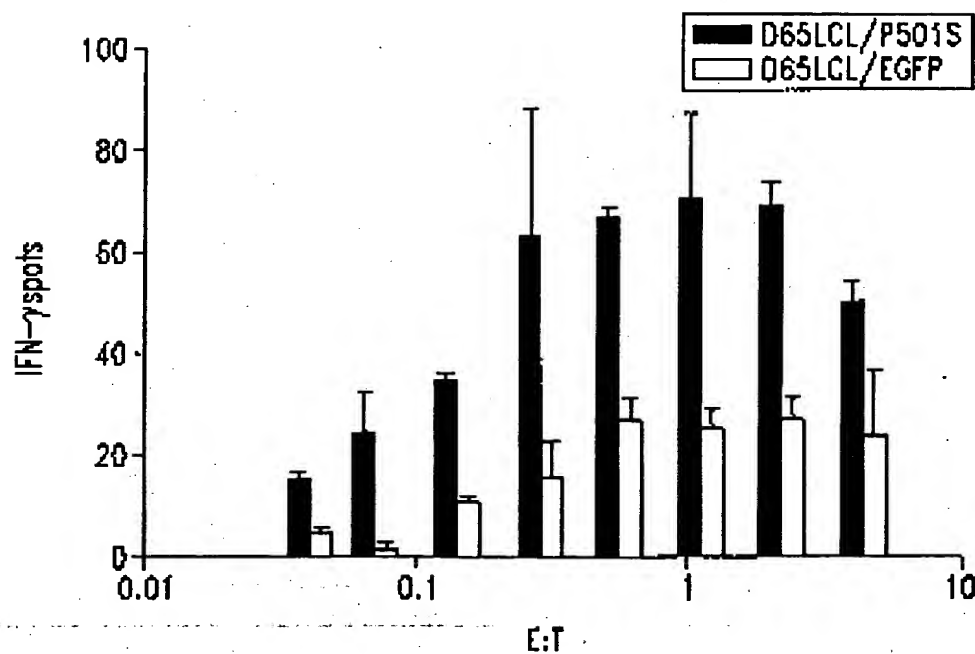


Fig. 6B

SEQUENCE LISTING

<110> Corixa Corporation et al.

<120> COMPOSITIONS AND METHODS FOR THE THERAPY AND
DIAGNOSIS OF PROSTATE CANCER

<130> 210121.534PC

<140> PCT

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<160> 476

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ctagagcggc	cggccacggc	gtggagctcc	agcttttgtt	cccttttagtg	agggttaatt	420
gcgcgcttgg	cgtaatcatg	gtcataactg	tttctgtgt	gaaattgtta	tcgcctcaca	480
attccacaca	acatacagag	cgggaagcata	aagtgtaaa	cctgggggtgc	ctaattgagt	540
anctaactca	catttaattgc	gttgcgctca	ctgnccgctt	tccagtcngg	aaaactgtcg	600
tgccagctgc	attaatgaat	cggccaacgc	ncggggaaaa	gggttttgcg	ttttgggggc	660
tcttcgcctt	ctcgtcact	nantcctgcg	ctcgttcntt	cggctgcggg	gaacqctatc	720
actcctcaaa	ggnggtatta	cgtttatccn	naaatcnggg	gatacccnng	aaaaaatntt	780
aacaaagggg	cancaagggg	cnguaacgta	aaaa			814

<210> 2

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(816)

<223> n = A, T, C or G

<400> 2

acagaaatgt	tggatgggtg	agcaactttc	tatacgactt	acaggacagc	agatggggaa	60
ttcatggctg	ttggagcaat	agaaccccag	ttctacgagc	tgctgatcaa	aggacttggg	120
ctaaagtctg	atgaacttcc	caatcagatg	agcatggatg	attggccaga	aatgaagaag	180
aagttttgag	atgtatttgc	aaagaagacg	aaggcagagt	ggtgtcaaat	ctttgacggc	240
acagatgcct	gtgtgactcc	ggttctgaat	tttgaggagg	ttgttcatca	tgatcccaac	300
aaggaaacggg	gctcgtttat	caccagttag	gagcaggaag	tgagcccccg	ccctgcacct	360
ctgctgttaa	acaccccagc	cateccttct	ttcaaaaggg	atccactagt	tctaga gcg	420
gcgcgccaccg	cgggtggagct	ccagcttttg	ttcccttttag	tgaqqqltaa	ttgcgcgctt	480

ggcgtaataca	tggatcatagc	tgttttctgt	gtgaaattgt	tatccgctca	caattccccc	540
aacatacagag	ccggaacata	aagtgttaag	cctgggggtgc	ctaattgamtg	agctaaactcn	600
cattaattgc	gttgogctca	ctgcccgcctt	tccagtcggg	aaaactgtcg	tgccactgcn	660
ttantgaato	ngccaccccc	cggaaaaagg	cggttgcntt	ttgggcctct	tccgctttcc	720
togctcattg	atcctngonc	ccggtcttcg	gctgcggnga	acggttcact	cctcaaaagge	780
ggtntnccgg	ttatcccca	acnngggata	ccnnga			816

<210> 3
 <211> 773
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(773)
 <223> n = A,T,C or G

<400> 3						
cttttgaag	aagggatggc	tggggtgttt	aacagcagag	gtgcaggggc	ggggctcaog	60
tctgtctct	cactggtgat	aaacgggcgc	cgttccttgt	tgtgatcatg	atgaacaacc	120
tctcaaaag	tcagaaacgg	agtcacacag	gcattctgtgc	cgtcaagat	ttgacaccac	180
tctgctctcg	tcttctttgc	aaatacatct	gcacacttct	tcttcatttc	tggccaatca	240
tccatgctca	tctgattggg	aagttcatca	gaotttagtc	canntccttt	gatacagcagc	300
togtagaact	ggggttctat	tgtcccaaca	gcoatgactt	ccccatctgc	tgtcctgtaa	360
gtogtataga	aaggtgtccc	accatccaac	atgttctgtc	ctcggggggg	ggccccggtac	420
ccaattcgcc	ctatantgag	tctgtattacg	cgcgtcact	ggccgkcggt	ttacaacgtc	480
gtgactggga	aaaccctggg	cgttaccaac	ttaatcgctt	tcagcacat	ccccctttcg	540
ccagctgggc	gtaatanoga	aaaggccccc	accgatcgcc	cttccaacag	ttgcgcacct	600
gaatgggnaa	atgggaaccc	cctgttaccc	cgcattnaac	ccccgcnngg	tttngttgtt	660
acccctacnt	nncccgctta	cactttgcca	gogccttanc	gcccgtcccc	tttncctttt	720
cttcccttcc	tttccccccc	ctttcccccc	gggtttcccc	cntcaaaccc	cna	773

<210> 4
 <211> 828
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(828)
 <223> n = A,T,C or G

<400> 4						
cctcctgagt	cctactgacc	tgtgctttct	ggtgtggagt	ccagggctgc	taggasaagg	60
aatgggcaga	cacaggtgta	tgccaatgtt	totgaaatgg	gtataatttc	gtcctctcct	120
tcggaaacact	ggctgtctct	gaagaactct	cgttcaggtt	cagtgaggac	acacacaaag	180
acgtgggtga	ccatgttgtt	tgtgggggtgc	agagatggga	gggggtggggc	ccacccctgga	240
agagtggara	gtgacacaag	gtggacactc	tctacagatc	actgaggata	agctggagcc	300
acaatgcctg	aggcacacac	acagcaagga	tgacnctgta	aacatagccc	acgtgtcctt	360
gnnggcactg	ggagccctcn	atnaggccgt	gagcanaaag	aaggggaggga	tccactagtt	420
ctanagcggc	cgcacccgcg	gtgganctcc	ancttttgtt	cccttttagtg	aggggttaatt	480
gcgcgcttg	cntaactcatg	gtcatanctn	tttctgtgtt	gaatttgtta	tccgtctaca	540
attccacaca	acatacganc	cggaacata	aanrtgtaaac	ctgggggtgco	taatgantga	600
ctaactcaca	ttaattgcgt	tgcgtcact	gcccgttttc	caatcnggaa	acotgtcttg	660
ccncttgcct	tnatgaactcn	gccaacccc	ggggaaaage	gtttgcgttt	tgggcgctct	720
tccgttctct	cnctcantta	ntccctnnc	tgggtcattc	gggtgcngc	aaacoggttc	780
accnctcca	aagggggtat	tccggtttcc	ccnactccgg	gganance		828

<210> 5
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 5
 ttttlltttt tttttactga tagatggaat ttattaaagt tttcacatgt gatagcacat 60
 agtttttaatt gcatccaaag tactaacasa aactctagca atcaagaatg gcagcatgtt 120
 attttataac aatcaacacc tgtggctttt aaaatttggg ttccataaga taattttatac 180
 tgaagtaaat ctagccatgc ttttaaaaaa tgcctttagg cactccaagc ttggcagtta 240
 acatttggca taaacaataa taaaacaatc acaatttaat aaataacaaa tacaacattg 300
 taggccaata tcatatacag tataaggaaa aggtggtagt gttgagtaag cagttattag 360
 aatagaatac cttggcctct atgcaaatat gtctagacac tttgattcac tcagccctga 420
 cattcagttt tcaagtagg agacagggtc tacagtatca ttttacagtt tccaacacat 480
 tgaaaacaag tagaaaatga tgagttgatt tttattaatg cattacatcc tcaagagtta 540
 tcaccaaccc ctcagttata aaaaattttc aagttatatt agtcatataa cttgggtgtc 600
 ttatttttaa ttagtgetaa atggattang tgaagacaa aatggtcccc taatgtgatt 660
 gatattggtc atttttaaca gcttctaaat ctnaactttc aggcctttga actggaacat 720
 tgnatnacag tgttccanag ttncacaccta ctggaacatt acagtgtgct tgattcaaaa 780
 tgttattttt ttaaaaattt aattttaacc tgggtgaaa ataatttgaa atna 834

<210> 6
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 6
 tttttttttt tttttttttt aagaccctca tcaatagatg gagacatcca gaatatgtca 60
 aaccacatct acaaaatgcc agtatcaggt ggcggcttcg aagcdaaagc qalqlllqga 120
 tgtaaagtga aatattagtt ggcggatgaa ggcgtagtga aggaagttg agccaataat 180
 gacgtgaagt ccgtggaagc nlglqgctac aaaaalgl ggcgctaga tccgctcga 240
 aatggtgaag ggcgacacga agtactctga ggcctttagg agggtaaaat agagaccag 300
 taaaattgla atagcagtg cttgaattat ttggtttcgg ttgttttcta ttagactatg 360
 gtgaqnlcag gtgattgata ctactgatgc gagtaatacg gatgtgttta ggagcgggac 420
 ttctggggga tttagcgggg tgatgcctgt tgggggccag tgcctccta gttgggggg 480
 aggggttagg ctggagtgtt aaaaaggctc gaaaaatcct gcgaagaaaa aaacttctga 540
 ggtaatatat aggtattatc cgtatcgaag gcctttttgg acaggtggtg tgtggtggcc 600
 ttggtatgtg ctttctcgtg ttacatcgcg ccatcattgg tatatggtta gtgtgttggg 660
 ttantanggc ctantatgaa gaacttttgg antggaatta aatcaatngc ttggccggaa 720
 gtcattanga nggctnaaaa ggcctgttta ngggtotggg ctnggtttta cccnaccat 780
 ggaatnccc cccgggacna ntgnatccct attcttaa 818

<210> 7
 <211> 817
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(817)
 <223> n = A,T,C or G

<400> 7
 ttttlltttl tttttttttt tggctctaga gggggtagag ggggtgctat agggtaaaata 60
 cgggccctat ttcaagatt tttaggggaa ttaattctag gaccatgggt atgaaactgt 120
 ggtttgctcc acagatttca ggcattgac cgtagtatac ccccggtcgt gtagcggta 180

aagtgggttg	gtttagacgt	ccgggaattg	oatctgtttt	taagcctaatt	gtggggacag	240
ctcatgagtg	caagacgtct	tgtgatgtta	tcattatacn	aattgggggt	tcaatcggga	300
gtactactcg	attgtcaacg	tcsaggagtc	gcaggtegcc	tgtttctagg	aataatgggg	360
gaagtatgta	ggaattgaag	attaatccgc	cgtagtgggt	gttctcttag	gttcaatccc	420
attggtggcc	aattgctttg	atggtaaggg	gagggatcgt	tgaactcgtc	tgttatgtta	480
aggatnccct	ngggetggga	aggcnatnae	ggactengga	tnaatggcgg	gcangatttt	540
tcaaaacngtc	tctantctct	gaaacgtctg	saatgttaast	aanaattaan	tttngttatt	600
gaatnttng	gaaaagggct	tacaggacta	gaaaccaaast	angaaaanta	atnnceangg	660
cmttatcntn	aaaggtatata	accnctccta	tnatcccaacc	caatngnatt	ccccccnenn	720
acnattggat	nccccanttc	canaaaanggc	cnccccccgg	tgnannccnc	cttttgttcc	780
cttnantgan	ggttatctnc	cctngcctt	atcancc			817

<210> 8

<211> 799

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1) . . . (799)

<223> n = A, T, C or G

<400> 8

catttcgggg	tttactttct	saggaangcc	gagcgggaagc	tqctaacgtg	ggaatcgggtg	60
cataaggaga	ectttctgct	ggcacggcgt	agggacaagc	gggagagcga	ctccgagcgt	120
ctgaagcgca	cgtcccagaa	ggtaggacttg	gcactgaaac	agctgggaca	catccgcaag	180
tacgaacagc	gcctgaaggt	gctggagcgg	gaggtccagc	agtgtagccg	cgtccctggg	240
tgggtggcgg	angcctganc	cgtctgctt	tgttgcctcc	angtgggccc	ccacccccctg	300
acctgctgg	gtocaaacac	tgaagccctgc	tggcggactt	caagganaac	ccccacangg	360
ggattttgct	octanantaa	ggctcatctg	ggcctcggcc	ccccacactg	gttggccttg	420
tctttgangt	gagccccatg	tccatctggg	ccactgtong	gacacacttc	ngggagtgtt	480
ctccttacaa	ccacannatg	cccggtccct	cccggaaccc	antcccancc	tngaaaggtat	540
caagnccctgn	atccactnnt	netanaaccc	gcnccncccg	cngtggaaac	cnccctntgt	600
tccttttctt	tnaggggtta	tnnccctctg	gcttcccan	ngtccctncc	nttttccant	660
gttnaaattg	ttangcnccc	ncnntcccn	cnncnnccan	cccgacccnn	annttannnn	720
ncctgggggt	ncnnnngat	tpacccncc	ncctntant	tgccttnggg	nnccntgccc	780
ctttccctct	aggganncg					799

<210> 9

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1) . . . (801)

<223> n = A, T, C or G

<400> 9

acgccttgat	cctcccagga	tgggaactggt	tctgggagga	gcggggcatg	ctgtggtttg	60
taangatgac	actcccaga	gtggtcctga	cagtggcuaa	gatggacatg	gggtccacct	120
caaggacaaq	gcccacaggt	gcgggggccc	aagcccacat	gatccttact	ctatgagcaa	180
aatcccctgt	gggggcttct	ccttgaagtc	cggccanccg	gctcagtctt	tggacccang	240
aggttcattg	ggttgtngnc	caactggagg	ccnuaaogca	aaanggcncn	gggcctcngn	300
cacccatccc	angaecgggc	tacaotnctg	gaactccccc	tccanccatt	tcatgogctg	360
ttentaccng	cgnatntgtc	ccanctgttt	cngtgcenac	tccanctctt	nggaagtggg	420
ctacatacgc	cgggancnc	netcccgttt	tgtccctatc	cccgtnccan	caacaaatct	480
cnccntantg	caccnatccc	carntttnc	agntttccnc	nnccngcttc	cttnlaaaag	540
ggttganccc	cggaaaatnc	cccaaaaggg	gggggcccng	taccccaactn	ccccctnata	600
gctgaantcc	ccatnacccn	gnctcnatgg	ancntccnt	tttaannacn	ttctnaactt	660
gggaananc	ctcgnccntn	ccccnttaa	tccncccttg	cnangnnent	cccccnatcc	720
ncccnntng	gentntnann	cnaaaaaggc	ccnnnancaa	tctcctnncc	cctcantteg	780

ccanccctcg aatcgggcn c

801

<210> 10
 <211> 789
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(789)
 <223> n = A,T,C or G

<400> 10
 cagtctatnt ggccagtgtg gcagctttcc ctgtggctge cgggtgcuaa tgcctgtccc 60
 acagtgtggc cgtggigaca gcttcagccg ccttcacccg gttcaccttc tcagccctgc 120
 agatccctgc ctacacactg gcctccctct accaccggga gaagcaqutg ttcctgcccc 180
 aataccggagg ggacactgga ggtgctagca gtgaggacag cctgatgacc agcttccctgc 240
 caggccctaa gcttgagct ccttccctta atggacacgt gggkqclgga ggcagtggcc 300
 tgcctccacc tcaccccgca ctctgcgggg cctctgcttg tgatgtctcc gtacgtgtgg 360
 tgggtgggtg gccacccgan gccaggggtg ttccggggcc gggcatctgc ctggacctgc 420
 ccctccctga taagtcttcc tgcctgcccc ngkggcccca tccctgttta tgggtctccat 480
 tgtccagctc agccagctct tccctgcctc tatgggtgtc gccgcaggcc tgggtctggg 540
 ccctttact ttgctaccc ggctantatt gacaggaacg anttggccaa atactcagcg 600
 tlaaaaaall ccagcaacct tgggggtgga agcctgcct cactgggtcc aactccccgc 660
 tctgttaac ccctggggc tgcgggttg gccgccaatt tctgttgcg ccaaatnat 720
 gtagctctct gctgccacct gttgctggct gaagtgcata cngcncanct nggggggtng 780
 gmggttccc 789

<210> 11
 <211> 772
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(772)
 <223> n = A,T,C or G

<400> 11
 cccaccctac ccaaatatta gacaccaaca cagaaaagct agcaatggat tcccttctac 60
 tttgttaaat caataagtta aatatttcaa tgcctgtgtc totgtgatgg caacagaagg 120
 accaacaggc aacatccctg taaaaggtaa gaggggggtg gatcagcaaa aagacagtgc 180
 tgtgggctga ggggacctgg ttcttgtgtg ttgcccctca ggaactctcc cctacaaata 240
 actttcatat gttcaaatcc catggaggag tgtttcatcc tagaaactcc catgcagag 300
 ctacattaaa cgaagctgca ggttaagggg ottanagatg ggaaaccagg tgaactgagtt 360
 tattcagctc ccaaaaaccc ttctctaggt gtgtctcaac taggagquta gctgttascc 420
 ctgagcctgg gtaatccacc tgcagagctc ccgcattcca gtgcctgga cccctctggc 480
 ctccctgtat aagtcagac tgaaccccc ttggaaggnc tccaglcagg cagccctana 540
 aactggggaa aagaganaag gacgcccann cccccagctg tgcantacg caccctasca 600
 gcacaggggtg gcagcaaaa aacccttta ctttggcaca aacaaaaact ngggggggca 660
 accccggcac ccnangggg gttacacgga ancggggnea cntggaaacc aattnaggca 720
 ggcuncuau ccnaatntt gctgggaat ttllcctccc cttaaattnt to 772

<210> 12
 <211> 751
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(751)
 <223> n = A,T,C or G

<400> 12

gccccaatte	cagctgcccac	accaccccacg	gtgactgcat	tagttcggat	gtcatacaaa	60
agctgattga	agcaacccctc	tacttttttg	tctgagocct	tttgcttggt	gcagggtttca	120
ttggetgtgt	tggtgacgtt	gtcatttgca	cagaatggg	gaaaggcaact	gttctctttg	180
asglongqg	agtcctcaaa	atccgtatag	ttggtgaagc	cacagcactt	gagccctttc	240
atggtggtgt	tccacacttg	agtgaagtct	tccgtgggaa	cataatcttt	cttgatggca	300
ggccclacca	gcaacgtcag	ggaagtgtct	agccattgtg	gtgtacacca	aggcgaccac	360
agcagctgcn	ccctcagcaa	tgaagatgan	gaggungatg	aagaagaacg	tcncgggggc	420
acacttgctc	tcagtccttan	caccatancg	gcccctgaaa	acccanancg	aagaccacna	480
cncgggtgc	gatgaagana	tnaccccneg	ttgacaaact	tgcattggcc	tggganccac	540
agtggccna	saatcttcca	aaaagggtgc	cccctcnact	gaccccccaa	atgcccacutg	600
ccaacagggg	ctgccccacn	cncnnaacga	tganccnact	gnacaagatc	tcnclgqict	660
tnatnaact	gaacnctgcn	tngtggctcc	tggtcaggnc	cnnggcclga	cttctnaann	720
aangaactcn	gaagncceca	cngganannc	g			751

<210> 13

<211> 729

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}... (729)

<223> n = A, T, C or G

<400> 13

gagccaggg	tcctctctgc	tgcccactca	gtggcaaac	ccgggagctg	ttttgtcctt	60
tgtgganct	cagcagtncc	ctctttcaga	actcantgce	aganccttg	aacaggagcc	120
accatgcagl	gcttcagctt	cattaagacc	atgatgatcc	tnclcaattt	gtcctctttt	180
ctgtgtggtg	cagccctgtt	ggcagtgggc	atctgggtgt	caatcgatgg	ggcatccttt	240
ctgaagatct	tggggccact	gtcgtccagt	gccatgcagt	ttgtcaacgt	gggtacttcc	300
ctcatcgag	ccggcggttg	ggtcttagct	ctagggttcc	tgggctgcta	tggtgctaag	360
actgagagca	agtgtgccc	cgtagcgttc	ttcttcctcc	tcctcctcat	cttcattgct	420
gaggttgcaa	tgctgtgtgc	gccttggtgt	acaccacaat	ggtgagcac	ttcctgacgt	480
tgtgtgtaat	gcttgccatc	aanaaaagat	tatgggttcc	caggaaact	tcactcaagt	540
gttggaacac	caccatgaaa	gggtcgaagt	gctgtggctt	cnnccaaacta	taaggatttt	600
gaagantcac	ctacttcaaa	gaaaanagtg	cccttccccc	atttctgttg	caattgacaa	660
acgtccccc	cacagccaat	tgaaaaactg	cacccaaccc	aaanggggtcc	ccaaccanaa	720
allnaaggg						729

<210> 14

<211> 816

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}... (816)

<223> n = A, T, C or G

<400> 14

tgctcttct	caaagttggt	cttgtttgca	taacaaccac	cataggtaaa	gggggcgcag	60
tgttcgtga	aggggttgta	gtaccagcgc	gggatgctct	ccttgacag	tcctgtgtct	120
ggcaggtcca	cgcagtgccc	tttgtcactg	gggaatgga	tgcgtggag	ctcgtcaag	180
ccactcgtgt	atttttcaca	ggcagcctcg	tcggacgcgt	cggggcagtt	gggggtgtct	240
tcacactcca	ggaaactgto	natgcagcag	ccattgctgc	agcggaaactg	ggtgggtgta	300
canctgccc	agcaactgg	atggcgctt	tcocatgnan	gggcccctng	ggaaagtccc	360
tganccccen	anctgcctct	caaanccccc	accttgcaaa	ccccgacagg	ctagaatgga	420
atcllcttcc	vgaaaggtag	ttnttcttgt	tgcccance	ancccntaa	acaaactctt	480
gcanaletgc	tcgnhgagg	tcntantacc	anctgggga	aaaaaccccc	agcnygcga	540
caanccltqk	tggtatnag	gcnaaatct	ncnttctctg	ctgggtggac	gcaccanlna	600

ctgttnanct	ttagncnctg	gtccctcgtg	gtcgnncttg	aacctaaten	ccnntcaact	660
gggacaaggt	aantngcent	cctttnaatt	ccnancntn	ccccctggtt	tggggctttt	720
cnctctccta	ccccagaaan	ncogtgttcc	cccccaacta	ggggccnaaa	ccnnttnttc	780
cacaacccctn	ccccacccac	gggttcngnt	ggttng			816

<210> 15

<211> 783

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(783)

<223> n = A,T,C or G

<400> 15

ccaaggcctg	ggcaggcata	naottgaagg	tacaacccca	ggaacccctg	gtgctgaagg	60
atgtggaaaa	cacagalttg	cgctactgc	gggtgacac	ggatgtcagg	gtagagagga	120
aagacccaan	ccaggtgqaa	clglggggac	tcaagggaang	caactacctg	ttccagotga	180
cagtqactag	ctcagaccac	ccagaggaca	cgcccaacgt	cacagtcact	gtgctgtcca	240
ccaagcagac	agaagactac	tgcctcgcac	ccaacaangt	gggtcgtgc	cggggtcttt	300
tcccaogctg	gtactatgac	cccccgggagc	agatctgcaa	gagtttcgtt	tatggagggt	360
gcttggggcaa	caagaacaac	taccttcggg	aagaagagtg	cattctance	tgtcnggggt	420
tgcaagggtg	gcctttgana	ngcanctctg	gggtcangc	gactttcccc	caggguuuct	480
ccatggaaaag	gcgccatcca	ntgttctctg	gcacctgtca	gcccacccag	lccogclgca	540
ncaatggctg	ctgcacnac	antttcctng	aattgtgaca	acacccccc	ntgcacccaa	600
ccctcccaac	aaagcttccc	tgttnaaaaa	tacnccantt	ggctttlnac	aaacnccggg	660
cnctcctntt	ttcccnntn	aacaaagggc	netngcnttt	gactgccc	aaccnnggaa	720
tctnccnngg	aaaaantncc	ccccctggtt	cctnnaance	cctccncaa	antncccc	780
ccc						783

<210> 16

<211> 801

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(801)

<223> n = A,T,C or G

<400> 16

gccccaatc	cagctgccac	accacccacg	gtgactgcat	taqltcggat	gtcatacaaa	60
agetgattga	agcaacccctc	tacttttttg	tcgtgagcct	tttgccttgg	gcaggtttca	120
ttggctgtgt	tggtagcgtt	gtcattgcaa	cagaatgggg	gaaaggcact	gttctctttg	180
aagtagggtg	agtcctcaaa	atccgtatag	tlggtagaagc	cacagcactt	gagcccttcc	240
atggtggtgt	tcacacactt	aglgaggtct	tcttggggaac	cataatcttt	cttgatggca	300
ggcactacca	gcaacgtccg	yaaqtgclca	gccattgttg	tgtacacca	ggcgaccaca	360
gcagctgcaa	cctcagcaat	gaagctgagc	aggaggatga	agaagaacgt	cncgagggca	420
caattgctct	cgtctttagc	accctagcag	ccangaaac	caagagcaaa	gaccacaacg	480
cengctygga	atgaagaaaa	ntacccacgt	tgacaaactg	catggccact	ggaogacagt	540
tggcccaaan	atcttcagaa	aagggatgcc	ccatcgattg	aacacccana	tgcccactgc	600
cnacagggt	gcnccnccn	gaaagaatga	gccattgaag	aaggtatcnc	ntggtcttaa	660
tgaactqaa	centgcctgg	tggccctgt	tcagggtctc	tggcagtga	ttctganaaa	720
aaqqaaacgc	ntnagcccc	ccaaangana	aaacaccccc	gggtgttgc	ctgaattggc	780
ggccaaqgan	cactgcccc	g				801

<210> 17

<211> 740

<212> DNA

<213> Homo sapi n

<220>
 <221> misc feature
 <222> (1)... (740)
 <223> n = A, T, C or G

<400> 17

gtgagagocaa	ggcgtccctc	tgccctgccc	ctcaagtggca	acaccocggga	gctgttttgt	60
ccctttgtgga	gcctcagcag	ttccctcttt	cagaactcac	tgccaagagc	cctgaacagg	120
agccaccatg	ccgtgcttca	gcctcaltaa	gacctgatg	atccctctca	atttgolcat	180
cttctctgtg	ggctcagccc	tgctggcagc	ggccatctgg	gtgtcaatcg	atggggcctc	240
cttctctgag	atcttcgggc	ccctgtctgc	cagtgccatg	cagtttgtca	ccgtgggcta	300
cttctctcgc	gcagccggcg	ttgtgggtct	tgctcttggg	ttcttgggct	gctatgggtg	360
tsagacggag	agcaagtgtg	ccctcgtgac	gttctctctc	atccctctcc	tcctcttcat	420
tgctgaagtt	gcagctgctg	tggtgcgctt	gggtgacacc	acaatggctg	aaccttctct	480
gacgttgctg	gtantgctg	ccatcaanaa	agattatggg	ttcccaggaa	aaattcactc	540
aannttgaa	caccnccatg	aaaagggctc	caattttctg	tggttctccc	aactatcccg	600
gaattttgaa	agantcnccc	tacttccaaa	aaaaaanant	tgcttttccc	cccttctgt	660
tgcaatgaaa	acntcccaan	acngccaatn	aaaacctgcc	cnncacaaaa	ggntcncaaa	720
caaaaaaant	naaggggttn					740

<210> 18
 <211> 802
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)... (802)
 <223> n = A, T, C or G

<400> 18

ccgttggttg	cgctggccca	gngnagccac	gaagcagctc	agcctacaca	gootcaatca	60
caaggtcttc	cagctgcgcg	acattacgca	gggcaagagc	ctccagcaac	actgcataatg	120
ggatacactt	tactttagca	gccagggtga	caactgagag	gtgtcgaagc	ttattctctct	180
gagcctctgt	tagtgagga	agattccggg	cttcagctaa	gtagtcaagc	tatgtcccat	240
aagcaaacac	tgtagcagc	cgggaaggtg	aggcaagctc	actctcagcc	agctctctaa	300
cattgggcat	gtccagcagt	tctccaaaca	cgtagacacc	agngggctcc	agcactgat	360
ggatgagtg	ggccagcgt	gcucccttgg	ccgacttggc	taggagcaga	aattgctctc	420
ggtctgccc	tgtaaccttc	acttcgcgac	tcactcactg	actgagtgtg	ggggacttgg	480
gctcaggatg	tccagagagc	tggttcgcgc	cccttcttta	atgaaacccn	ccanncaacc	540
gtcggcttcc	ggcagantg	ttcgtctgnc	ctgggacagg	gtctgtgtgc	cncctactgc	600
aancctctgc	nggcccattg	aattcancnc	accgggaactn	gtangatcca	ctnctctctc	660
aaccgncgc	caccgcnant	ggcaactccac	tcttcttccc	tttacttgag	ggttaaggct	720
ccctttanag	ttactcttgg	ccaaaccttn	ccctgtgtcg	anattnglnaa	tenggnccnc	780
tnccancnc	atangaagcc	ng				802

<210> 19
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)... (731)
 <223> n = A, T, C or G

<400> 19

cnaagcttcc	aggtnacggg	ccgcaancc	tgaccunagg	tancanaang	cagnungcgg	60
gagccuacgg	tcacgnggng	gngtctttat	nqaggggggc	ggagccacat	cncfgyacnt	120
cntgacccca	actccccc	nncanlga	gtgatggtg	cagaactgaa	ggtnacgtgg	180
caggaaacca	gancannc	tgctccnttc	caagtcggcn	nagggggcgg	ggclggccac	240
gencatecct	cnagtgtgtn	aaagccccc	cctgtctact	tgcttgaggc	acngcnngc	300


```
<210> 20
<211> 754
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)..(754)
<223> n = A,T,C or G
```

<400> 20						
tttttttttt	tttttttttt	taaaaacccc	ctccatttaa	lgnaaacttc	cgaaattgtc	60
caaccccctc	ntccaaatnn	ccntttccgg	gnngggggtc	caaacccaan	ttanttttgg	120
annttsaatt	saatttctnt	tggnggnnaa	ancenaatgt	nangaaagtt	naaccanta	180
tnacttttaa	tnctctgaaa	ccngtngntt	ccaaaaatnt	ttaaccetta	antccctcgg	240
saatngttta	nggaaaaccc	aantttctnt	aaggttggtt	gaaggntnaa	tnaaaanccc	300
nnccaattgt	ttttngccac	gcctgaatta	attggtttcc	gntgttttcc	nttaaaanaa	360
ggnnancccc	ggtttantaa	tccccccnnc	cccaattata	coganthttt	ttngaatagg	420
gancccnogg	gaattaacgg	ggnnntccc	tnttgggggg	cnggnccccc	cccnctcggg	480
ggttngggnc	aggnccnaat	tgtttaaggy	tccgaaaaat	ccctccnaga	aaaaaanctc	540
ccaggntgag	nnctngggttt	ccccccccc	canggccctt	ctcgnaaggt	tggggtttgg	600
ggggcctggg	attttntttt	ccctntttnc	tccccccccc	ccnqqganaq	aggltnnggt	660
tttgtcnnc	gycccncccn	aaganntttn	cagnttnan	ttaaatcctt	gcctnggcga	720
agtcncttgn	aggnataaan	qccccclnn	cagg			754

```
<210> 21
<211> 755
<212> DNA
<213> Homo sapien
```

```
<220>
<221> misc_feature
<222> (1)...(755)
<223> p = A,T,C or G
```

<400> 21						
atcancoccat	gaccccnnaac	nnsgggacccc	tcancoggnc	nnncnnaacnc	cgcccnataca	60
nngtanagnc	actnncnntt	natacncccc	cnccnactac	gcccncnanc	cnacgcnccta	120
ncanacncc	actguncgc	cgangtngcn	ngagaaanac	nalaananc	ncacncnnc	180
ccagctgtcc	nanaagccct	nnnatacngg	nnnatccaat	ntgnancctc	cnagctatto	240
nnccncaanac	gattttcccln	anccgattac	ccntncncnc	lanccctcc	cccccaacna	300
cgagggcnct	ggncnnaagg	nnccgncncc	ccgctagntc	cccnncasgt	cncncncta	360
aactcncnc	nallacncc	tlcnlgagta	tcactcccg	aactctaccc	tactcaactc	420
aaacnatan	gatacaaaat	aethcaagcc	tgnttatnac	actntgactt	ggtctctatt	480
ttagnggtcc	ntnaancntc	ctaatacttc	cagtctnctc	tcnccaat	cnaanggc	540
cttlcngaca	gcattntttg	gtcccnntt	gggttcttan	ngaattgcc	ttcntngaac	600
gggtcctctc	tttctctccg	ttancctgg	ttcncccgcc	cagttattat	ttccntttt	660
aaattctntc	cntttanttt	tggcnttca	aaoccccgcc	cttgaaaaac	gccccctggt	720
aaaggttgt	tttganaaaa	tttttgctt	gtcc			755

<210> 22
<211> B49
<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (849)

<223> n = A, T, C or G

<400> 22

tttttttttt	tttttangtg	tngtctgtca	ggtagagget	tactacaant	gtgaanaagt	60
aogctnggan	taangeagacc	cgantttctag	ganncnccct	aaaatcanac	tgtgaagatn	120
atootgnnna	cggaanggtc	accggungat	nntgctaggg	tgnccnctcc	caannenttn	180
cataacteng	nggcoctgce	caccaccttc	ggcgccccng	ngnccgggce	ogggctcattn	240
gnnttaaccn	cactnngcna	ncggttctcn	ncccnncng	accnnggoga	tcgggggtnc	300
tetgtcttcc	cctgnagnon	anaaantggg	ccnccgnccc	ctttacccct	nnacaagcca	360
enccctctca	ncnccngccc	ccctccant	nnnggggact	gccnannget	cogttncnng	420
nncccccnnn	gggtncctcg	gttgtcgant	cnaccgnang	ccanggatcc	enaagggaagg	480
tgcgttnttg	gcccctaccc	ttcgctnccg	nncccccctc	ccgacnanga	nccgctcccg	540
ccnnnggung	cctcncctcg	caacaacccg	netctctngt	nccgnncccc	ccccccccc	600
ncctcncnc	ngnccgnanc	ctcncncnc	gtctcannca	ccaccccgc	ccgccagggcc	660
ntcancacn	ggnggaacng	nagcnenttc	gcnccgcgn	cccnccctcc	cgcncngaa	720
ctnctcngg	ccntcncgc	tcancncna	cnaaaagccg	ctgcgcggcc	cgnagcgncc	780
ncctcncga	gtcctcccg	cttcnanc	angnttccn	cgaggacacn	nncccccgc	840
nnccngcgg						849

<210> 23

<211> 872

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)... (872)

<223> n = A, T, C or G

<400> 23

ggcacaacta	taettegctc	gnactcgtgc	gcctcgetnc	tcttttcttc	cgcaaccatg	60
tctgaacnanc	ccgattnggc	ngatctchnc	aagntcgcnc	agtccaaact	gantaacaca	120
cacacnncn	aganaaatcc	ncctgcttcc	anagtanacn	attgaacnng	agaaccangc	180
nggcgaatcg	taatnaggcg	tgcgcgcgcca	atntgtcccc	gtttattntn	ccagctctnc	240
ctnccnacc	taontcttcc	nagetgtcnn	acccctngtn	cgnacccccc	naggtcggga	300
tccgggtttn	notgaccng	cncccccctcc	ccccntccat	nacganccnc	ccgcaccacc	360
nanngcncgc	nccccggnct	cttgcgcnc	ctgtcctntn	ccctgtngc	ctggcnngn	420
accgcattga	ccctcgcnc	ctnccngaaa	ncgnanacgt	ccgggttggn	annancgctg	480
tgggnnngcg	tctgcncgc	gttccctccn	ncnccctcca	ccatcttctt	taanggggtct	540
ccnccgcctc	tcnnncacnc	cctgggagcg	tnccctnngc	cccccctnac	ccccccctt	600
cgnccgtgnc	cgnccccacc	ntcatttnc	nacgntcttc	acaannncct	ggntnnctcc	660
cnancngncn	gtcancncag	ggaaggngng	ggncnccntg	nttgacgctg	nggnyangtc	720
cgaanantcc	tcnccctccn	cnctccctcc	cggcggnct	ctcngttccc	aactlancaa	780
ntctccccc	ngnccnctc	tcagoolcnc	ccncccnct	ctctgcantg	tactctgctc	840
tnaccnnlac	ganltatcgn	cncctctctt	cc			872

<210> 24

<211> 815

<212> DNA

<213> Homo sapien

<220>

<221> misc_f ature

<222> (1)... (815)

<223> n = A, T, C or G

<400> 24

gcacgcaagc	ttgagkatto	tatagngtca	cctaaatanc	ttggcntaat	catggctnta	60
hctgncttcc	tgtgtcaaat	gtatacnaaa	tanatatgaa	tcfnatntga	ceagannqta	120
tentncatta	gtaccaantg	tnntgtccat	cctgtongaa	canatlcce	tnnattnnqn	180
cgcatctnch	gncncatln	taatngggaa	ntcnntnnn	ncacennnat	ctatctntcc	240
gcnccctgac	tggnagagat	ggatnatttc	lnntotgacc	nacatgttca	tcttggatln	300
aananccecc	cgcnngccac	cggttngnng	cnagccnntc	ccaagacctc	ctgtggaggt	360
aacctgcgtc	agannccatc	acnttgggaa	acccgcnncc	angtnnaagt	ngnnncanqn	420
gatcccgctc	agntttnacc	atcccttenc	agcgccccc	ttngtgcctt	anagngnagc	480
gtgtccnanc	cnctccacat	ganacgcgcc	agncancccg	caattnggca	caatgtcgnc	540
gaaccccta	gggggantha	tncaaanccc	caggattgtc	cnncanagaa	atcccnccac	600
ccnccctac	cnncctttgg	gacngtgacc	aantcccgga	gtncacagtcc	ggccngnctc	660
ccccacoggt	nnccntgggg	gggtgaanct	cngnntcanc	cnngcagaggn	ntcgnaagga	720
accggncctn	ggncgaanng	ancnntcnga	agngccnct	cgtataaccc	ccctcnccca	780
nccnacngnt	agntcccccc	cnnggtncgg	aangg			815

<210> 25
 <211> 775
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(775)
 <223> n = A,T,C or G

<400> 25	
ccgagatgtc	tcgctccgtg
aggtatccca	gcgtacacca
agtcaaat	ccgtgaattgc
tactgaagaa	tggaagaga
actggcttt	tactotontg
cctgocgtgt	gaacccatgtg
tgtaagcagn	cnccatggaa
ctgcttgcct	gcnttttaat
tgtaggggtt	acatnangt
aattgcccgt	cncccggttn
tcttaaggaa	ggccctgggc
cncccccaca	cnctcttngg
nccttnctta	anacaaactn
gccttccgtg	gccttccgtg
tttactcacc	tttactcacc
gggttccatc	gggttccatc
tggaacatc	tggaacatc
aattcacc	aattcacc
agcccaagat	agcccaagat
gcgcatttg	gcgcatttg
ntatacacc	ntatacacc
catgatcttc	catgatcttc
cnnaaccacg	cnnaaccacg
ggttggggga	ggttggggga
gggaacccctc	gggaacccctc
cnattccctc	cnattccctc
ttacc	ttacc

<210> 26
 <211> 820
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(820)
 <223> n = A,T,C or G

<400> 26	
anattantac	agtgtaatct
ccanagata	ncattatnca
gaaaagggtg	cgttcccat
ccatcangcc	ttcgggtggg
ntgatgacca	tgggcggggg
ncgtagggtt	cacactataa
ttcctacctg	acnaucagng
acnnagcaat	ccclgcccc
ccctgttggg	attncgggga
gatgggaatt	tncccttccg
lccatctnct	ntcctgncnc
tttcccagag	gtgtgtanag
acagtgcctt	gaccaagagc
cacttctcct	ctcccatagc
gggagtcang	gaaacaaan
cgagcctctt	ccctgnaccg
acgtlaacga	cnagatnan
acnnnaact	gcnccctggg
cccatggcng	tnccctccc
naccaaggga	ncccctcct
gccnntcccc	tcttccctta
acnnnatctc	ccttnattga
ctagaggaat	ctagaggaat
atttccclqa	atttccclqa
gggtgagtaq	gggtgagtaq
anacagacca	anacagacca
nganagccta	nganagccta
aggtgcaccc	aggtgcaccc
ggancagcta	ggancagcta
aggggaagct	aggggaagct
aggaasaann	aggaasaann
ntactctntc	ntactctntc
tcggannctn	tcggannctn

ganattccac tnngeectnc cntenateng naanacnaaa naetntctna ccnnggggat 720
 gggnncectog nteatcetct cttttttenel acenecnnatt ctttgcectet ccttngatca
 780tcccaacntc gntggcentn cccccccnnn lcolttnecc
 820

<210> 27
 <211> 818
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(818)
 <223> n = A,T,C or G

<400> 27
 tctgggtgat ggcctcttcc tccctcagga cctctgactg ctctgggcca aagaatctct 60
 tgtttcttct ccgagcccca ggcagcgggtg attcagecct gcccaacotg attctgatga 120
 ctgoggatgc tgtgacggac ccaaggggca aatagggtcc cagggtccag ggaggggcgc 180
 ctgctgagca ctcccgcccc tcacccctgc cagccctgc catgagctct gggctgggtc 240
 tcgcctcca gggttctgct ctccangca ngccancaaag tggcgttgg ccacactggc 300
 ttcttctgc cccntccctg gctctganc tctgtcttcc tgtctgtgc angenccttg 360
 gatctcagtt tccctcctc anngaaactct gttctgann tcttcantta actntgantt 420
 tatnaccnan tggnetgtnc tgtcnnactt taatgggeen gaccggctaa tccctccctc 480
 nctcccttcc anttonnnaa acnngcttnc cntctctcc ccttancccg ccngggganc 540
 utcccttgc ctnaccangg gccnnnaccc ccclnncln ggggggcnng gtnnctnnc 600
 ctgntnccc onctcnccnt tccctcgtcc cnnccnccn ngccancttc nngtcccn 660
 tnnctcttcc ngntctgnaa ngntcncntn tnnnnngncc ngntnlnccn tccctctcnc 720
 cnnlgnang lanttnannc ncngncccc nnnccannnn nggnantnna tctnccnccg 780
 cccncccc ngnatteagg cctccnntct ccggccnc 818

<210> 28
 <211> 731
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(731)
 <223> n = A,T,C or G

<400> 28
 eggaagggcg gagggatatt gtangggatt gagggatagg agnetaangg gggaggtgtg 60
 tcccaacatg anggtgnngt tctcttttga angaggggtg ngtttttann ccnggtgggt 120
 gattnaacc cattgtatgg agnnaaagg tttnggggat ttttcggctc ttatcagtat 180
 ntanattect gtnaatcgga aaatnatnt tcnncnggaa aatnttgctc ccatecgnaa 240
 attnctcccg ggtagtgcac nttngggggc cngccangtt tcccaggctg ctanaatcgt 300
 actaaagntt naagtggan tncaaatgaa aacctnncc agagnatccn taccogactg 360
 tnnnttncct tcgcctntg actctgcnng agcccaatac ccnngnngnat gtccccngn 420
 nnnccgnccn tgaaannnnc tcgnggctnn gancatcang gggtttcgca tcaaaagcnn 480
 cgtttncat naaggaactt tngoctcact caaccnctng cctcnncca ttingccctc 540
 nggttccct acgctnntng cncctnnntn ganattttnc cgcctnggg naancctcct 600
 gnaatgggta gggnetntc ttttnaccnn gnggtntact aatcnnctnc acgcntnctl 660
 tctnaccccc ccccttttt caateccanc ggcnaatggg gtctcccncc ogangggggg 720
 nnnccanncc c 731

<210> 29
 <211> 822
 <212> DNA
 <213> Homo sapien

<220>

<221> misc feature
 <222> (1)...(822)
 <223> n = A,T,C or G

<400> 29
 actagtccag tgtggtggaa ttccattgtg ttggggmnc ttctatgant antnttagat 60
 cgtccanacc tcacancctc ccnaccnangc ctataangaa nannaataga nctgtncnnt 120
 atntntacnc tcatanncoct cunnaccacac tccctcttaa cccntactgt gectatngcn 180
 tnnctantct ntgcgcctn cnanccacen gtgygcacac cncnngnatt ctctctctcc 240
 tcnccatntn gectananta ngtnccatac clalacctac nccaatgcta nnnctaacn 300
 tccatnanlt annnltaacta ccactgacnt ngactttenc atnancctct attlgaatc 360
 tactctgact ccacngcct annnattagc anntcccccc nactatntct caaccacac 420
 ntcaaccacc ctctctctctg ttncnccacc nttnccctcg ctcccccnnac aacccccctc 480
 ccaatatccc nccacctgac nccctaccn ccccatcccg gcaagccncc ggnccatttan 540
 ccactgggat cccnattngga naaaaaaac cccnactctc tancnccnat ctccctaana 600
 aatnctctctn naatttactn nccntnccat caanccacn tgaascnnaa cccctgtttt 660
 tanatccctt ctctcgaaaa cccncccttt anncnccaac ctctngggcc ccccnctnc 720
 ccaatgaag gncnccaat cnangaaag nccntgaaa ancnaggona anannntccg 780
 canatccat cccctanttn ggggnccctt nccnngggcc cc 822

<210> 30
 <211> 787
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(787)
 <223> n = A,T,C or G

<400> 30
 cggccgcctg ctctggcaca tgctctctga atggcatcaa aagtgatgga ctgcccattg 60
 ctagagaaga ccttctctcc tactgtcatt atggagccct gcagactgag ggtcccccctt 120
 gtctgcagga ttgatgtct gaagtctgg agtctggctt ggagctctc atctacatna 180
 gctggaagcc ctggaggggc tctctcgcca gctcccccct tctctccacg ctctccangg 240
 acaccagggg ctccaggcag cccattatto ccagnangac atggtgtttc tccacggcga 300
 cccatggggc ctgnaaggcc aggtctctct ttgacacccat ctctcccgto ctgctggca 360
 ggccgtggga tccactantt ctanaacggn cgcacccncc gtgggagctc cagcttttgt 420
 tccnttaat gaaggtaat tgcncgcttg gogtaatcat nggtcanaac tntttcctgt 480
 gtgaaattgt ttntccctc ncnattccnc ncnacatacn aacccgggan cataaagtgt 540
 taaagccctg ggtngcctn nnguatnae tnaactcant taattgcgtt ggtcctggc 600
 ccgcttttcc ttngggaaa ctgtctntcc ctgcttntnt gaatcgcca ccccccnggg 660
 aagagcgall lgcnttttng qggntcctt ccncttccc cctcctaan cctnccgct 720
 cgtctctc nggtngcggg gaagggnat nnnlccnc naaggggng agnnngtat 780
 ccccaa 787

<210> 31
 <211> 799
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(799)
 <223> n = A,T,C or G

<400> 31
 tttttttttt ttfttttggc gatgctactg tttaattgca ggaggtgggg gtgtgtgtac 60
 catgtacccg ggtattaga agcaagaagg aaggaggag ggcagagcgc cctgctgagc 120
 aacaaaggac lctgcagcc ttctctgtct gtctcttggc gcaggacat ggggaggcct 180
 ccgcagggg qggggccacc agtcuagggg tggagcact acnagggtg ggaagtgggtg 240
 qtgctgqin cnaatggccc gncacnata cctccgcttc ttgacacctg gatttcaaca 300

```

ggggaccttc tgttctccca nggnaacttc nttnatcton aaagaacaca actgtttctt 360
cngcanttct ggtgttcat ggaaagcaca ggtgtconat ttinggtggg acttgggtaca 420
tatggttcog gccacctct cccntonaan aagtaattca ccccccccn cctctctttg 480
cctgggcoct taantaacca caccggaaet canttannta ttcattcttg gntgggcttg 540
ntnatcnccn cctgaangcg ccaagttgaa agggccacgoc gtncccnctc cccatagnan 600
nttttncnt canctaatic ccccccnngc aacnatccaa tcccccccn tgggggcccc 660
agcccanggc ccccgnetcg ggnnnccngn cncgnantcc ccaggnctc cccntcngne 720
ccnnngcncc cccgcacgca gaacnaagg ntngagcnc cgcannnnnn nggtannac 780
ctcgccccc cccnccngg

```

<210> 32
 <211> 789
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)... (789)
 <223> n = A, T, C or G

```

<400> 32
ttttttttt ttttttttt ttttttttt ttttttttt ttttttttt ttttttttt 60
tttttccnag ggcagggtta ttgacaacct cncgggacac aancaggctg gggacaggac 120
ggcaacaggc tccggcgcg gggcgggcg cctacactgc ggtaccaaat ntgcagctc 180
cgtcccgct tgaatttct ctgcagctgc aggatgcctt aaacagggc ctcgccntn 240
ggtgggcaac ctgggatttn aatttccag ggcacaatgc ggtcgcancc cctcaccacc 300
nattaggaat agtggnttta cccnccnccg ttggcncaet ccccntggaa accacttntc 360
gggctccgg catctggtt taacacttgc aaacnctgg ggcctcttt ttggttantt 420
nccngccaca atcatnactc agactggcnc gggctggccc caaaaaancc ccccaaaaa 480
ggncctgtc ttncggggt tgnctgnatn tncal.cact cccgggcnca ncaggncacc 540
ccaaaagttc ttgnggccc caaaaaanct ccggggggnc ccagtttcaa caaagtcate 600
cccl.Lggcc cccaaatct cccccgntt nctgggtttg ggaacccaag cctctnnctt 660
tggngggcaa gntggntccc ccttcggggc cccgggtggc cccnctctaa ngaaaaancc 720
ntcctnncca ccatcccc nngnnacgnc tancaangna tccctttttt tanaaacggg 780
ccccccnng

```

<210> 33
 <211> 793
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)... (793)
 <223> n = A, T, C or G

```

<400> 33
gacggacact gttggatggt ggagcactt tctatacgac ttacaggaca gcagatgggg 60
aatlcalggc tgttgagca atanaacccc agttctacga gctgctgato aaaggacttg 120
gaeteaagtc tgatgaactt cccaatcaga tgagcatgga tgattggcca gaattgaana 180
agaagtttgc agatgtattt gcaagaaga cgaaggcaga gtggtgtcaa atotttgacg 240
gcacagatgc ctgtgtgact ccggttctga ctittgagga ggttgttcat catgatcaca 300
acaangaacg gggctcgttt atcaccantg aggagcagga cgtgagcccc cgcctgcac 360
ctctgctggt aaacaccccc gccatccctt ctttcaaaa ggtocacta cttctagago 420
ggncgcacc gcggtggage tccagotttt gtcccttta gtgaggtta attgogogct 480
tggegtaatc atggtcatan ctgttctctg tgtgaaattg ttatccgctc acaattccac 540
acaacatacg anccgggaagc atnaaatttt aaagcctggg ggtngcctaa tgantgaact 600
nactcacatt aattggottt gcgtcactg cccgotttcc agtcgggaaa acctgtcctt 660
gccagctgcc nttaatgaat cnggccaccc cccggggaaa aggcngttt cttnttggg 720
cgnottccc gotttctcgc ttactgaant ccttcccccc ggtctttcgg cttgcggcna 780
acggtatcna cct

```

793

<210> 34
 <211> 756
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(756)
 <223> n = A,T,C or G

<400> 34
 gccgcgaccg gcatgtacga gcaactcaag ggcgagtggg accgtaaaag ccccaatctt 60
 ancaagtggg gggaanagct gggtcgactc aagctagtto ttctggagct caacttcttg 120
 ccaaccacag ggaccaagct gaccaaaacag cagctaattc tggcccggtg catactggag 180
 atcgggggcc aatggagcat cctacgcaan gacatccctt ccttcgagcg ctacatggcc 240
 cagctcaaat gctactactt tgattacaan gagcagctcc ccgagtcagc ctatatgcac 300
 cagctcttgg gctcaacctt cctcttcttg ctgtcccaga accgggtggc tgantnccac 360
 acgganttgg ancggttggc tgcccanga cacaanacc aatgtotaca tcnaccacca 420
 gtgtccttga gcaatactga tgganggcag ctaccncaa gtnttcttgg ccnagggtaa 480
 cateccucgc cggagagctac accttcttca ttgacatctt gctcgacact atcagggatg 540
 aaaaatcgng ggtttgttca gaaagggttc aanaaatcc ttttctctga agggcccg 600
 atnctctagt nctagaatcg gcccgccctc ggggtgganc ctccaccctt tegttnccct 660
 ttactgaggg tlnaktgccc ccttggcgt tatcatggc acnccngttn cctgtgttga 720
 aattnliaac ccccccaat tccacgcena cktng 756

<210> 35
 <211> 834
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(834)
 <223> n = A,T,C or G

<400> 35
 ggggatctct anatonacct gnatgcattg ttgtcgggtt ggtcgcctgc gatgaanag 60
 accaggctct tgccttqaa gctctcggct gctgtnttta agttgctcag tctgcgctca 120
 taqtcagaca cnetcttggg caaaaaacan caggatntga gtcttgattt cacttccaat 180
 aatcttcngg gctgtctgct cgggtgaactc gatgaanag qccagctggt tgtgtntgat 240
 aaanlccanc angttctctt tgggtgaccc ccttccasg ttgttcgggc cttcatoaaa 300
 cttctnnaaa angannanc cancttctg gcgctggnc lgganaaca cgtcctgtt 360
 ggaaactgat ccccaatggt atgtcatcca tgcctctg tgcctgcaaa aacttgcct 420
 ggcncaaate cgaactcccn tcttgaaag aagccnatca cccccctc cctggactcc 480
 nccaangact ctncgcctnc cccntccng cagggttggg ggcanccgg gccentgcgc 540
 ttcttcagcc agttcactat ntcatcagc cctctgcca gctgtntat tcttggggg 600
 ggaanccgtc tctccttcc tgaannaact ttgacogtng gaatagccgc gctcncct 660
 acntnctgg cgggttcaa antccctcn ttgcnntcn cctcgggcca ttctggattt 720
 nccnaacttt tcttccccc cncctcngg ngtttgntt ttcatnggg ccccaactct 780
 gctnttggcc antccctgg gggcnntan cncctctnt ggtccctng ggcc 834

<210> 36
 <211> 814
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(814)
 <223> n = A,T,C or G

<400> 36

cggnccgcttt	cgcgcgcgcgc	cccggtttcca	tgacnaaggc	tcccttcang	tcaaatacnn	60
cctagnaaac	attaatgggt	tgtctacta	atacatcata	cnacccagta	agcctgccc	120
naacgccaac	tcaggccatt	cctacccaag	gaagaaaggc	tggctctctc	ccccccigta	180
ggaaaggcct	gccttgtaag	acaccacaat	ncggctgcat	ctnagctctt	gctgtttact	240
aattggaana	aaaaataaac	aanagglttt	gttctcatgg	ctgcccaccg	cagcctggca	300
ctaaaaacnc	ccagcgctca	cttctgcttg	ganaaatatt	cttctctctt	tgggacatca	360
ggcttgatgg	talcaactgc	acnttltccc	ccagctgggc	nccttctccc	catntttgtc	420
anlqancctg	agggcctgaa	nottagtctc	caaaagtctc	ngcccaraag	accggccacc	480
agggggangtc	ntttncagtg	gctctgccc	anantaccn	tctctcnn	gaataaaaag	540
gcccclgaac	ganatgcttc	cancancctt	taagacccat	aatcctngaa	ccatgggtgc	600
cttcgggtct	gactcnaaag	gaatgttcc	gggtcccant	cctctcttg	tttcttaagt	660
tgtnttggc	cctcgtngn	atnaccan	tganatccc	ngaagcacc	tnccctggc	720
atttganttt	cntaattct	ctgcctacn	notgaaagca	cnattccctn	ggonccnaan	780
ggngaactca	agaaggctctn	ngaaaaacca	cnctn			814

<210> 37
 <211> 760
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(760)
 <223> n = A, T, C or G

gcattgtgtct	cttctctcaaa	gttcttctctg	tggccataac	aaccaccata	ggtaaaagcg	60
gcgcagtggt	cgtggaaggg	gttcttagtac	cagcgcgagg	tgtctctctt	gcagagtcct	120
gtgtctggca	ggctcccgca	atgccccttg	tcactgggga	aattggatgc	ctggagctcg	180
tcnaaaccac	tcgtgtattt	ttcacangca	gcctctctcg	aagcttccgg	gcagttgggg	240
gtgtcgtcac	actccactaa	actgtcgatn	cancagcccc	ttgtctcagc	ggaactgggt	300
gggctgacag	gtgccagAAC	acactggatn	ggcctttcca	tggaaagggc	tgggggaaat	360
cnctnanc	caaaactgct	ctcaaaaggc	accttgacac	cccgcacag	ctagaaatgc	420
actcttcttc	ccaaaggtag	ttgttcttgt	tggccaagca	ncctocanca	aaccaaaanc	480
ttgcaaaatc	tgtccgtgg	gggtcatnn	taccanggtt	ggggaaanaa	accggcgngn	540
ganccnctt	gtttgaatgc	naaggnaata	atcctctgt	cttcttggg	tggaaagca	600
caattgaact	gttaacnttg	ggcggngtgc	cnctnggggt	gtctgaaact	aatcacgcgc	660
actggaaaaa	ggtaggtgc	tctcttgat	tcccaaanft	ccctngntt	tgggtntttt	720
ctctctncc	ctaaaaaatgc	tttcccccc	cntangggc			760

<210> 38
 <211> 724
 <212> DNA
 <213> Homo sapien

 <220>
 <221> misc feature
 <222> (1)...(724)
 <223> n = A, T, C or G

tttttttttt	tttttttttt	tttttttttt	tttttaaaaa	ccccctccat	tgaatgaaa	60
cttccnaaat	tgtccaaacc	cctcnnccaa	atnnccattt	ccgggggggg	gttccaaacc	120
caaattaatt	ttgganttta	aattaaatnt	tnattngggg	aaanaaccac	atgtnaagaa	180
aatttaaccc	attatnaact	taaatnccn	gaaccccttg	gnttccaaa	atttttaacc	240
cttaaatccc	tcogaaattg	ntaanggaaa	accaaattcn	cctaaggctn	tttgaagggt	300
ngatttaaac	ccccttnant	tntttttacc	cnngnctnaa	ntatttngnt	tcoggtgttt	360
tctnttaan	cntngttaac	tcccgntaat	gaannccct	aanccaatta	aaccgaattt	420
tttttgaatt	ggaaattccn	nggggaattna	ccgggttttt	tcccnitttg	gggcaalnc	480
ccncttttcg	gggtttgggn	ntaggttgaa	tttttnang	cccccaaaa	cccccaaaa	540
aaaaaactcc	caagntttaa	ttngaatttc	cccttccca	ggccttttgg	gaaagnggg	600
ttnttggggg	cengggantt	cnlcccccn	ttncncccc	cccccnngt	aaanggttat	660

ngnnntttggt ttttgggccc ctttannaggac cttccgggatn gaaattaaat ccccggnnog 720
gcog 724

<210> 39
<211> 751
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> {1}...{751}
<223> n = A, T, C or G

<400> 39
tttttttttt tttttctttg ctcacattta atttlltallt tgattttttt taatgctgca 60
ccacacacata ttatlllcat ttgtttcttt tatttccattt tatttgtttg ctgctgctgt 120
tttctttatt tttactgaaa gtgagaggga actttttgtg ctttttttcc tttttctgta 180
ggcgcclta agctttctaa atttggacaa tctaaagcaag ctgaanggaa aaggggggtt 240
cgcaaatca ctcgggggga nggaaagggt gttttgttaa tcatgacctt tgggtgggtga 300
ttaactgctt gtacaattac ntttcacttt taattaattg tgctnaange ttttaattana 360
cttggggggt cctcccccac accaaccccn ctgacaaaaa gtgcngccc tcaaatnatg 420
tcccgcnnt cnttgaaaca cacngcngaa ngttctcatt ntcccnccnc caggtnaaaa 480
tgaagggtta ccatntttaa cncacacctc acntggcnnn gcctgaatcc tcnaaaancc 540
cctcaanen aatttctnng ccccggtcnc gentnngtcc cncocgggct cggggaatn 600
caccocnga annccntnnc naacnaaatt ccgaaaatat tcccnntcnc tcaattcccc 660
cnnagactnt cctcnncncc nccaattttt ttttnttccg gaacnccgnc cnaaaatgn 720
nnnccnctc cctngtccn naatnccan c 751

<210> 40
<211> 753
<212> DNA
<213> Homo sapien

<220>
<221> misc feature
<222> {1}...{753}
<223> n = A, T, C or G

<400> 40
gtggtatttt ctgtaagatc aggtgttctt cctcgttagg ttttagagga acaccctcat 60
agatgaaaac ccccccga gaagcagcaat gcaactgcca agcagccggg ctggaggggg 120
cgccctatgc acagctgggc ccttgagaca gaagggttc gatgtcaggc tcatgtcaa 180
tggctctgaa ggggggggtg taactgcgta ggggacacac gtccgggccc accaggaact 240
tctcaaggtt ccaggcaacn tegtgtcgac acacgggaga ccagggtgatn agcttgggggt 300
cgttcataac cgggtgggc tegtgtgtg gagctggcag ggctcccc aggaaggcna 360
ataaaaggtg cgccccgca cgttccnct cgcacttctc naanaccatg angttgggt 420
cnaaccacac accnnccgg acttccclga nggaattccc aaatctcttc gntcttggg 480
ttctnctgat ggcctnctg gttggccngn atgccaancc nccccaancc ccgggggtcct 540
aaanccccc cctccclntt tcatclgggt tnttntccc ggacnttgtt tctctcaag 600
ggancccata tctcnaccan tactcaant nccccccnt gnnaccancc cttctanngn 660
tcccncccg acctclggc cntcaaanan gcttncancc cctgggtctg ccttcccccc 720
tnccctctct gnaccnccn tttgtctcan tnt 753

<210> 41
<211> 341
<212> DNA
<213> Homo sapien

<400> 41
actatatcca tcacaacaga catgottcat cccatagact tcttgacata gcttcaaatg 60
agtgaaccca tccctgattt atatacatat atgttctcag tattttggga gccttccac 120
ttctttaaac ctgttcatat atgaacactg aaaaatagaa tttgtgaaga gttaaaaagt 180

tatagcttgt	ttacgtagta	agtttttgaa	gtctacattc	aatccagaca	cttagttgag	240
tggtaaactg	tgatttttaa	aaaatatcat	ttgagaatat	tctttcagag	gtattttcat	300
ttttactttt	tgattaattg	tgttttatat	attagggtag	t		341

<210> 42
 <211> 101
 <212> DNA
 <213> Homo sapien

aacttactgaa	tttagttctg	tgctotttct	taltttagtg	tgatcctaa	atactttgat	60
gtttcaaaaca	ttctaaataa	ataattttca	gtgggttcac	a		101

<210> 43
 <211> 305
 <212> DNA
 <213> Homo sapien

acatctttgt	tacagtctaa	gatgtgttct	taaatacaca	ttccttctcg	gtcctcaccc	60
tccagggtgg	tctcacactg	taattagagc	tattgaggag	tctttacagc	aaattaagat	120
tcagatgcct	tgctaagtct	agagttctag	agttatgttt	cagaaagtct	aagaaaccca	180
cctcttgaga	ggtcagtaaa	gaggacttaa	tatttcatat	ctacaaaatg	accacaggat	240
tggatacaga	acgagagtta	tcctggataa	ctcagagctg	agtaacctgc	cgggggcccgc	300
tcgaa						305

<210> 44
 <211> 852
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)... (852)
 <223> n = A,T,C or G

acataaatat	cagagaaaag	tagtctttga	aataatttaacg	tccaggagtt	ctttgtttct	60
gattattttg	tggtgttttt	ggtttgtgtc	caaagtattg	gcagcttcag	ttttcatttt	120
ctctccatcc	tggggcattc	ttcccaaatt	tatataccag	tottcgtcca	tccacacgct	180
ccagaatttc	tctttttag	taatatctca	tagctcggtc	gagcttttca	taggicacgc	240
tgctgtttgt	ctctctttta	ccccatagct	gagccactgc	ctctgatttc	aaggaaacctga	300
agagcgcctc	agatcggtct	tcccatttta	ttaatcctgg	gttcttgtct	gggltcaaga	360
ggatgtcgcg	gatgaattcc	cataagttag	tccctctcgg	gttqlgcttc	ttgggtgtggc	420
aacttgcagg	ggggctctgc	tcccttttca	tatcaggtga	ctctgcaaca	ggaaggtgac	480
tggtggllgt	calggagatc	tgggccgggc	agaaaglttt	gctgtccaac	aaactctactg	540
tgctaccata	gttgggtgla	tataaatagt	tctnqtcttt	ccaggtgttc	atgatggaag	600
gctcagtttg	ttcagtcctg	acaatgacct	tgtgtgtggc	ctggcaacagg	tcactactgc	660
actggccgtt	ccacttcaga	tgtgcaagt	tgtgttagag	gagntgcccc	gccgtccctg	720
ccgccccggg	gaactcctgc	aaactcatgc	tgcaaaaggtg	ctcgccgttg	atgtcgaact	780
cntggaaagg	gatacaattg	gcateccagct	ggttgggtgtc	caggaggtga	tggagccact	840
cccacacctg	gt					852

<210> 45
 <211> 234
 <212> DNA
 <213> Homo sapien

acaacagacc	cttgcctcgt	aacgacctca	tgctcatcaa	gttggacgaa	tccqlgtccg	60
agtctgacac	catccggagc	atcagcattg	cttcgcagtg	ccctaaccgc	gggaacctctt	120
gcctcgtttc	tggctggggg	ctgctgguga	acggcagaat	gcctaccctg	ctgcagtgccg	180

tgaacgtgtc ggtggtgtct gaggaggtct gcagtaagct ctatgaccgc ctgt 234

<210> 46
 <211> 590
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc feature
 <222> (1)...(590)
 <223> n = A,T,C or G

<400> 46
 acttttttatt taaatgttta taaggcagat ctatgagaat gatagaaaac atggtgtgta 60
 atttgatagc aatatttttg agattacaga gtttttagtaa ttaccaatta cacagttaa 120
 aagaagataa tatattccaa gcanatacaa aatatctaata gaagatcaa ggcaggaaaa 180
 tgantataac taattgacaa tggaaaatca attttaaatgt gaattgcaca ttatccttta 240
 aaagctttca aaanaanaa ttattgcagt ctanttaatt caaacagtgt taaatggtat 300
 caggataaan aactgaagg canaaaagat taattttcac ttcatgtaac ncaccanac 360
 ttacaatggc ttaaatgcan ggaaaaagca gtggaagtag ggaagtanc aaggtctttc 420
 tggctctctaa tctgccttac tctttgggtg tggctttgat cctctggaga cagctgccag 480
 ggctcctgtt atatccacaa tcccgacagc aagatgaagg gatgaaaaag gacacatgct 540
 gccttccttt gaggagactt catctcactg gccaacactc agtcacatgt 590

<210> 47
 <211> 774
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc feature
 <222> (1)...(774)
 <223> n = A,T,C or G

<400> 47
 acaagggggc ataatgaagg agtggggana gatttttaag aaggaaaaaa aacgaggccc 60
 tgaacagaat ttctcctgnac aacggggcctt caaataaatt ttcttgggga ggttcaagac 120
 gcttccactgc ttgaaactta oatggatgtg ggacanaatt ttctgtaatg accctgaggg 180
 cattccagac gggacclclgg qaggaaggat aaacagaaag gggacaaagg ctaatcccaa 240
 aacatcaag aaagggaagg ggcgtccatc ctccagcct acacagttct ccagggctct 300
 cctcaterct ggaggacgac aglqqaggaa caactgaca lclccccagg ctctgtgtg 360
 ctggctctcg gtcttcagcc cccagctctg gaagencac ctctgtgat cctggctggc 420
 ccacactcct tgaacacaca tcccaggtt atattcctgg acctggctga aacctctatt 480
 cctacttccg agatgccttg ctccctgcag cctgtcaaaa tcccactcgc cctccaaaa 540
 acggcatggg aagcctttct gacttgcctg attactccag catcllqaa caatccctga 600
 ttcccactc cttagaggca agatagggtg gttaaagata gggctggacc ccttggagcc 660
 aggtgtgtgg ctccaattt tggctcattt acgagctatg ggaccttggg caagtnatct 720
 tcaactctat gggcctcatt ttgtctacc tgcaaaatgg gggataataa tagt 774

<210> 48
 <211> 124
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc feature
 <222> (1)...(124)
 <223> n = A,T,C or G

<400> 48
 canaaattga aattttataa aaaggcattt ttctcttata tccalaaat gatataattt 60
 ttgcaantat anaastgtgt cataaattat aatgttccct saltacgct caacgcaact 120

tggt

124

<210> 49
 <211> 147
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc feature
 <222> {1}...{147}
 <223> n = A,T,C or G

<400> 49
 gccgatgcta ctatttttatt gcaggagggtg ggggtgtttt tattattctc tcaaacagctt 60
 tgttggtaca ggtgggtgtot gactgcattna aawantttt tacgggtgat tgcanaaatt 120
 ttagggcacc catatcccaa qcantgt 147

<210> 50
 <211> 107
 <212> DNA
 <213> Homo sapien

<400> 50
 acattaaatt aataaaagga ctgttgggggt tctgctaaaa cacatggctt gatatatattgc 60
 atggttttgag gttaggagga gttaggcata tgttttggga gaggggt 107

<210> 51
 <211> 204
 <212> DNA
 <213> Homo sapien

<400> 51
 gtccatagga gtctagggga cccacgactc tggggtcacg gggccgacac acttgccagg 60
 cgggaaggaa aggcagagaa gtgacacgt caggggggaaa tgacagaaag gaaatcaag 120
 gccttgcaag gtcagaaagg ggaactcagg ctccaccac agccctgccc caattggcca 180
 cctccctttt gggaccagca atgt 204

<210> 52
 <211> 491
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{491}
 <223> n = A,T,C or G

<400> 52
 acaaagatga cttttatctt ataacaaaaa tttgatagtt tttaagggtta gtattgtgla 60
 gggatatltc caaaagacta aagagataac tcaggtaaaa agtttagaat gtataaaaca 120
 ccatcagaca ggttttttaa aaacaacata ttacaaaatt agacaatcat ccttaaaaaa 180
 aaaaacttct gtatcaattt ctttctgtca aatgactga ctttaantatt tttaaatatt 240
 tcaaaacac ttctcaaaa attttcaana tggtagcttt canatgtacc ctccgtccca 300
 atgttctca gataaataaa tctogtgaga acttaccacc caccacaagc ttctggggc 360
 atgcaacagt gtcttttctt tncctttctt tttttttt ttacaggcac agaaactcat 420
 caattttatt tggataacaa aggggtctcca aattatattg aaaaataaat ccaagttaat 480
 atcactcttg t 491

<210> 53
 <211> 484
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(484)
 <223> n = A,T,C or G

<400> 53
 acataattta gcagggtctaa ttaccataag atgctattta ttaanaggtn tatgatctga 60
 gtattaacag ttgctgaagt ttggtatttt tatgcagcat tttcttcttg ctttgataac 120
 actacagaac cottaaggac actgaaaatt agtaagttaa gttcagaaac attagctgct 180
 caatcaaatc totacataac actatagtaa ttaaaacgtt aaaaaaagt gttgaaatct 240
 gcaactagtat anaccgctcc tgtcaggata anactgctt ggaaacagaaa gggaaaaanc 300
 agctttgant ttctttgtgc tgatangagg aaaggctgaa ttaccttggt gctctctcct 360
 aatgattggc aggtcnggta aatnccaasa catattccaa ctcaacactt cttttccnec 420
 tancttgant ctgtgtattc caggancagg cggatggaat gggccagccc noggatgttc 480
 cant 484

<210> 54
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 54
 actaaacctc gtgcttgtga actccataca gassacggtg ccctccctga acacgggtgg 60
 ccactgggta tactgctgac aaccgcaaca acaaaaaac aaatccttgg cactggctag 120
 tctatgtcct ctcaagtgc tttttgtttg t 151

<210> 55
 <211> 91
 <212> DNA
 <213> Homo sapien

<400> 55
 acctggettq tctcgggtg qttccggggc ccccccacgg tcccagaaac ggacactttc 60
 gccctccagt ggataclcga gccaaagtc t 91

<210> 56
 <211> 133
 <212> DNA
 <213> Homo sapien

<400> 56
 ggccgatgtg cgttggttat atacaaatat gtcattttat gtaagggaact tgagtatact 60
 tggatttttg gtatctgtgg gtgggggga cgggtccagga accaataccc catggatacc 120
 aagggaacac tgt 133

<210> 57
 <211> 147
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(147)
 <223> n = A,T,C or G

<400> 57
 actctggaga acctgagccg ctgctccgcc tctgggatga ggtgatgcan gcnytggcgc 60
 gactgggagc tgagcccttc cctttgcgcc tgcctcagag gattgttgcc gacntgcana 120
 tctcantggg ctggatncat gcagggt 147

<210> 58

22

<211> 198
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)..(198)
 <223> n = A,T,C or G

<400> 58
 acagggatct aggtttnaag ttattgtnat tgtaaaatac attgaatttt ctgtatactc 60
 tgatttcata caittatcct ttaaaaaaga tgtaaatcctt aattitttatg ccatctatta 120
 atttaaccaat gagttacctt gtaaatgaga agtcattgata gcautgaatt ttaactagtt 180
 ttgacttcta agtttggt 198

<210> 59
 <211> 330
 <212> DNA
 <213> Homo sapien

<400> 59
 acaacaaatg gggttgtagg aagtcttctc agcaaaactg gtgatggcta ctgaaaagat 60
 ccattgaaaa ttatcattaa tgatttttaa tgacaagtta tcaaaaaactc actcaatttt 120
 cactgtgct agcttgctaa aatgggagtt aactctagag caaatatagt atcttctgaa 180
 tacagtcaat aatgacaaa gccagggcct acaggtggtt tccagacttt ccagaccag 240
 cagaaggaat ctattttatc acatggatct ccgtctgtgc tcaaaatacc taatgatatt 300
 tttcgtcttt attggacttc ttigaagagt 330

<210> 60
 <211> 175
 <212> DNA
 <213> Homo sapien

<400> 60
 accgtgggtg ccttctacat tctgacggc tcttcacca acatctggtt ctacttcggc 60
 gtcgtgggt ccttctctt catctcctc cagctgggtg tgcctcctga ctttgcgcac 120
 tcttggaacc agcgtgggt gggcaaggcc gaggaagtgc attccctgct ctggt 175

<210> 61
 <211> 154
 <212> DNA
 <213> Homo sapien

<400> 61
 accncarttt tctcctgtg agcagtcctg acttctcact gctacatgat gagggatgag 60
 ggttggtgt cttcaacagt atctctcctt ttcggatct gctgagcagg acagcagtg 120
 tggactgcac agcccgaggg ctccacattg ctgt 154

<210> 62
 <211> 30
 <212> DNA
 <213> Homo sapien

<400> 62
 ccgtcagagcc ctatagttag cgtatttaga 30

<210> 63
 <211> 89
 <212> DNA
 <213> Homo sapien

<400> 63

acaagtcatt tcagaccct ttgctcttca aaactgacca tcttttatat ttaatgcttc 60
ctgtatgaat aaaaatgggt atgtcaagt 89

<210> 64
<211> 97
<212> DNA
<213> Homo sapien

<400> 64
accggagtaa ctgagtcggg acgctgaatc lgaatccacc aataaataaa ggttctgcag 60
aatcagtga tccaggattg gtcttggat ctgggt 97

<210> 65
<211> 377
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(377)
<223> n = A,T,C or G

<400> 65
acaacaanaa ntcccttctt taggcaactg atggaaacct ggaacccct tttgatggca 60
geatggcgtc ctggccttg acacagcggc tggggtttg gctntccaa accgcacacc 120
ccaccctgg tctaccaca nttctggcta tgggctgtct ctgcaactga acatcagggt 180
tcggtcataa natgaatcc caanqgggc agaggtcagt agaggaagct caatgagaaa 240
ggtgctgttt gctcagcccq aaaaacagclq cctggcattc gccgctgaa tatgaaccgc 300
tgggggtgaa ctaccccan gaggaaatcat gcttggguga tccaanggtg ccuacaggag 360
gggcgggagg agcatgt 377

<210> 66
<211> 305
<212> DNA
<213> Homo sapien

<400> 66
acgcctttcc ctangaattc aggggaagaga ctgtgcctg ccttccctccg ttgttgctg 60
agaacccgtg tgcacctcc caccatatac accctugctc catctttgaa ctcaaacacg 120
aggaactaac tgcacccclq tctctccccc agtccccaqt tcacctcca tccctcacct 180
tctccactc taaggatct caacaactgc cagcacaggg gccctgaatt tatgtggttt 240
ttatatattt ltaataaga tgaactttat gtcatttttt aataaagctc gaagaattac 300
tggtt 305

<210> 67
<211> 385
<212> DNA
<213> Homo sapien

<400> 67
actacacaca ctccacttgc ccttgtgaga cactttgtcc cagcaacttta gyaatgctga 60
ggtoggacca gccacatctc atgtgcaaga ttgccacgca gacatcagggt ctgagagttc 120
cccttttaaa aaaggggact tgcctaaaaa agaagtctag ccacgattgt gtagagcagc 180
tgtgtgtgct tggagattca cttttgagag agttctctc tgagacctga tcttttagagg 240
ctgggcagtc ttgcacatga gatggggctg gtctgatctc agcaactcct agtctgcttg 300
cctctcccag ggcacccagcc tggccacacc tgcctacagg gcactctcag atgccatac 360
catagtttct ctgctagtg accgt 385

<210> 68
<211> 73
<212> DNA
<213> Homo sapien

<400> 68
acttaaccag atatattttt accccagatg gggatattot ttgtaaaaa tgaastaaa 60
gttttttttaa tgg 73

<210> 69
<211> 536
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(536)
<223> n = A,T,C or G

<400> 69
actagtcacag tgtggttgaa ttccattgtg ttgggggttc tcaacctctt ctcttgcagc 60
tccagctttg tgcctctgct ctgaggagac catggcccag catctgagta cctctgctgt 120
cctgctggcc accctagctg tggccctggc ctggagcccc aaggaggagg ataggataat 180
cccgggtggc atctataaag cagacctcaa tgatgagtgg gtacagcgtg ccttcaactt 240
cgccatcagc gagtataaca agggccacca agatgactac tacagacgtc cgttgcgggt 300
actaagagcc aggcacaga ccgttggggg gytgaattac ttcttcgacg tagaggtggg 360
ccgaaccata tgtaccaagt cccagcccaa ctggacacc tgtgccttc atgaacagcc 420
agaactgcag aagaaccagt tgtgtctttt cagatctctt gaagttccct ggggagaca 480
gaangtccct ggtggaatc caggtgtcaa gaalactan ggtctgtt cccggc 536

<210> 70
<211> 477
<212> DNA
<213> Homo sapien
<400> 70

atgaccccta acagggggcc tctcagccct cctaattgacc tccggccctag ccatgtgatt 60
tcaattccac tccataacgc tctcataact aggcctacta accaaccacac taaccataata 120
ccaatgatgg cgcgatgtaa cagcagaaag cacataccaa ggcacacaca caccacctgt 180
ccaaaaaggc ctctgataag ggataatcct atttattacc tcagaagttt ttttcttgcg 240
agggattttt ctgagccctt taccactcca gcttagcccc taacccccaa ctaggagggc 300
actggccccc aacaggcata acccgcctaa atccctctga agtcccaact ctaaacacat 360
ccgtattact cgcatacaga gtatcaalca cctgagctca ccatagtota atagaaaca 420
accgaancca aattattcaa agcaactgct attacaattt lactgggtct ctatttt 477

<210> 71
<211> 533
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1)...(533)
<223> n = A,T,C or G

<400> 71
agagctatag gtacagtgtg atctcagctt tgcacacaca tttttacat agatagtact 60
aggtattaat agatatgtaa agaaagaaat cacaccatta ataattgtta gattgggtta 120
tgtgatttta gtgtatttt tggcaccctt atatattgtt tccaaacttt cagcagtgat 180
attatttcca taacttaaaa agtgggtttg aaaaagaaa tctcagcaa gctctcatt 240
taaatzaag tttgtcatct ttasaaatac agcaatatgt gactttttta aaaaagctg 300
aaatagggtg gacctacta ataatlctta gaalacatt taaaacatc ggtacctca 360
agtcagtttg ccttgaaaaa talcaaatat aactctttag gaattgtaca laaaagaatg 420
cttctaat tttgaatag aggttccclc ctcaatttgg catttttaa aagtacatgg 480
taaaaaaaa aattcacaac agtatataag gctgttaaat gaagaattct gcc 533

<210> 72

<211> 511
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(511)
 <223> n = A,T,C or G

<400> 72
 tattccggaa aacacaccca catcattcaa ctanccaaaga anactgcttc agggcggtga 60
 aastgaagg cttccaggca gttatctgat taagagascac taaggaggga ecaaggctaa 120
 aagccgcagg stgtctacac tatancaggc gctatttggg ttggctggag gagctgtgga 180
 aascctggan agattggtgc tgganacgc cgtggctatt cctcattgtt attacnagt 240
 gaggttctct gtgtgccac tggtttga aaacctctnc aataatgata gaatagtaca 300
 cacatgagaa ctgaatggc ccaaacccag aaagaaagcc caactagatc ctccagaaac 360
 gcttctaggg acaataaccg atgaagaaaa gatggcctcc ttgtgcccc gtctgttatg 420
 atttctctcc attgcagcna naaacccggtt cttctaagca aacncagggt atgatggcna 480
 aaatacacc cctcttgaag naccnaggag a 511

<210> 73
 <211> 499
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(499)
 <223> n = A,T,C or G

<400> 73
 cagtgcacgc actggtgcca gtaccagtac caataacagt gccagtgcc gtcaccagcac 60
 cagtgggtggc ttccagtgtg gtgccagcct gaccgccact ctccacatttg ggctcttcgc 120
 tggccttggt ggagctggtg ccagcaccag tggcagctct ggtgcctgtg gtttctcta 180
 caagtggat tttagatatt gttaatcctg ccagtctttc tcttcaagcc aggggtgcac 240
 ctccagaaac tactcaaac agcactctag gcagccaata tcaatcaatt gaagttgaca 300
 ctctgcatta aatctatttg ccatttctga aaaaaaaa aaaaaaagg cggccgctcg 360
 antctagagg gcccgtttaa acccgctgat cagcctcgac tgtgcctct anttgcacg 420
 catctgttgt ttgcccccc cccgntgct tcttgaccc tggaaagtgc cactccact 480
 gtctttct aantaatat 499

<210> 74
 <211> 537
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(537)
 <223> n = A,T,C or G

<400> 74
 ttctcatagga gaacacacty aggagatact tgaagaattt ggattcagcc gcgaagagat 60
 ttatcagctt auctcagata aaatcattga agtaataag gtaaaagcta gtctctaact 120
 tccaggccca cggctcaagt gaatttgaat actgcattta cagtgtagag taacacataa 180
 cattgtatgc atggaaacat ggaggaaacag tattacagtg tccctaccact ctaatcaaga 240
 aaagaattac agactctgat tctacagtga tgattgaatt ctaaaaatgg taatcattag 300
 ggcttttgat ttataaact ttgggtactt atactaatt atggtagtta tactgccttc 360
 cagtttgcti galatakttg ttgclcttae gattcttgac ttatattttg aatgggtct 420
 actgaaan gaatgatata ttcttgaage catcgelata cattcattta cactottgat 480
 tctacactgt agaaaatgaa ggaaatgcc caaat:grat ggtgataaaa gtccct 537

26

<210> 75
 <211> 467
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(467)
 <223> n = A, T, C or G

<400> 75
 caaanecaat tgttccaaag atgcaaatga tacactactg ctgcagctca caaacacctc 60
 tgcataattac acgtacctcc tcttgcctct caagtagtgt ggtctatatt gccatcatca 120
 cctgctgtct gcttagaaga acggctttct gctgcaangg agagaaatca taacagacgg 180
 tggcacaagg aggcacatct ttcctcatcg gttattgtcc ctagaagcgt ctcttgagga 240
 tctagttggg ctttctttct gggtttgggc catttcantt ctcatgtgtg tactattcta 300
 tcattattgt ataacggttt tcaaacnngt gggcancnag agaacctcac totgtaataa 360
 caatgaggaa tagccaaggt gatctccagc accaaatctc tccatgtfnt tccagagctc 420
 ctccagccaa cccaatagc cgtcgtatn gtgtagaaca tccctgn 467

<210> 76
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(400)
 <223> n = A, T, C or G

<400> 76
 aagctgacag cattcgggoc gagatgtctc gctcogtggc cttagctgtg ctccgcctac 60
 tctctctttc tggcctggag gctatccagc gtactccaaa gattcaggtt tactcacgtc 120
 atccagcaga gaattgaaag tcaaatctcc tgaattgcta tgtgtctggg tttcatccat 180
 ccgacattga agttgactta ctgaagaatg gagagagaat tgaaaaagtg gaggattcag 240
 acctgtcttt cagcaaggac tggctctttc atctcttgta ctacactgaa ttacccccca 300
 ctgaaaaaga tgagtatgoc tgcogtgtga accatgtgac tttgtcacag cccaaatnng 360
 tttagtggga tctanacatg taagcagcan cctgggaggt 400

<210> 77
 <211> 240
 <212> DNA
 <213> Homo sapien

<400> 77
 ctggagtgc ttggtgtttc aagccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgccc cggcggggga tgcgaggctc ggagcacctc tgcocggctg tgattgtctc 120
 caggcaactg tcatctcagc tttctgttcc ctttgcctcc ggcaagcgtc tctgtgaaa 180
 gttcatatct ggagcctgat gtcttaacga ataaaggctc catgctccac ccgaaaaaaa 240
 aaaaaaaa 240

<210> 78
 <211> 201
 <212> DNA
 <213> Homo sapien

<400> 78
 actagtccag ttgtgtggaa ttccattgtg ttggggccca cacaatggct acctttacaa 60
 tcccccagac cccgccttgc cctgcccaca cgtctctgct aacgacagta tgatgcttac 120
 totgtacttc ggaaactatc tttatgtaat taatgtatgc tttcttgttt ataatgcct 180
 gatttcaaaa aaaaaaaaaa a 201

<210> 79
 <211> 552
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{552}
 <223> n = A,T,C or G

<400> 79
 tccttttggg aggtttttga gacaccccta gacctaact gtgtcacaga cttctgaatg 60
 ttttaggcagt gctagtaatt tcttcgtaat gattctgtta ttactttcct attctttalt 120
 cctcttttct ctgaagatta atgaagttga aaattgaggt ggataaatac aaaaaggtag 180
 tgtgatagta taagtatcta agtgcagatg aaagtgtgtt atatatatcc attcacaatt 240
 atgcaagtta gtaattactc aggggttaact aaattacttt aatatgctgt tgaacctact 300
 ctgttccttg gctagaaaaa attataaaca ggactttgtt agtttgggaa gccaaattga 360
 taatattcta tgttctaaaa gttagggctat acataaanta tnaagaaata tggaaattta 420
 ttcccaggaa tatgggggtt atttatgaat antacccggg anagaagttt tgantnaaac 480
 cngttttggg taatacgtta atatgtcctn aatnaacaag gcntgactta ttccaaaaa 540
 aaaaaaaaaa aa 552

<210> 80
 <211> 476
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{476}
 <223> n = A,T,C or G

<400> 80
 acagggattt gagatgctaa ggccccagag atcgtttgat ccaacccctct tattttcaga 60
 ggggaaatg gggcctagaa gttacagagc atctagctgg tgcgctggca cccctggcct 120
 cacacagact cccgagttagc tgggactaca ggcacacagt cactgaagca ggcctgtgtt 180
 gcaattcagc ttgccacctc caacttaaac attcttcata tgtgatgtcc ttagtcacta 240
 aggttaact ttcccaccca gaaagggcaa cttagataaa atcttagagt actttcatac 300
 tcttctaagt cctcttcagc cctcactttg agtctcctt ggggggttgat aggaantntc 360
 kcttggttll ctcaataaaa tctctatcca tctcatgtt aaattggtag gcntaanaat 420
 gctgaaaaaa ttaaatgtt ctgglttcnc tttaaaaaaa aaaaaaaa aaaaaa 476

<210> 81
 <211> 232
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{232}
 <223> n = A,T,C or G

<400> 81
 tttttttttg talgcctctn ctgtggngtt attgttgcgt ccacccctga ggagcccagt 60
 ttctttctga tctttctttt ctgggggato ttcttggttc tgcctctcca ttccagacct 120
 ctcatccca tcttgcaatt ttgttagggt tggaggcgt ttcttggtag cccctcagag 180
 acloagtcag cgggaata g tcttaggggt ggggggtgtg gcaagccggc ct 232

<210> 82
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A, T, C or G

<400> 82

aggcgggagc	agaagctaaa	gccaaagccc	aagaagagt	gcagtgccag	cactgggtgcc	60
agtaccagta	ccaataacat	gccagtgcc	gtgccagcac	cagtgggtggc	ttcagtgcctg	120
gtgccagcct	gaccggccact	ctcacatttg	ggctcttcgc	tggccttggg	ggagctgggtg	180
ccagcaccag	tggcagctct	gggtccctgtg	gtttctccta	caagtggat	tttagatatt	240
gttaatcctg	ccagtctttc	tottcaagcc	aggggtgcac	ctcagaaacc	tactcaaac	300
agcactctng	gcagccacta	tcaatcaatt	gaagttgaca	ctctgcatta	aattctatttg	360
ccatttcaaa	aaaaaaaaaa	aaa				383

<210> 83
 <211> 494
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(494)
 <223> n = A, T, C or G

<400> 83

accgaattgg	gaccgctggc	ttataagoga	toatgtccto	cagtattacc	tcaacgagca	60
gggagatcga	gtctatacgc	tgaagaaatt	tgaccgatg	ggacaacaga	cctgctcagc	120
ccatcctgct	cggttctccc	cagatgacaa	atactctcga	caccgaatca	ccatcaagaa	180
acgcttcaag	gtgtctatga	cccagcaacc	ggcctctgto	ctctgagggt	ccttaaaactg	240
atgtcttttc	tggccacctgt	taccctctgg	agactcccta	accaaactct	tggactctgtg	300
agccctgatg	ccttttttgc	agccatactc	lktggentec	agletctcgt	ggcatttcat	360
tatgtctgtg	tgaggcactc	atgggtggct	caccatnna	gggaacacat	ttgacttttt	420
ttttoncatat	tttaaatcac	naccagaata	nlcagaata	aatlgaattga	aaaactctta	480
aaaaaaaaaa	aaaa					494

<210> 84
 <211> 380
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(380)
 <223> n = A, T, C or G

<400> 84

gttggtagcc	tatggcgtgg	ccagggaagg	qctctgagg	cacgggacag	tgaattccca	60
agtatectgc	gcggcgtctt	ctaccglccc	tacctgcaga	tcttcgggca	gattccccag	120
gaggacatgg	acgtggccct	catggagcac	agcaactgct	cglcggagcc	cggcttctgg	180
gcacaccctc	clggggccca	ggcgggcacc	tgcgtctccc	agtatgcnaa	ctggcctgggtg	240
gtgctgclcc	tcgtcatctt	cctgctcgtg	gccaaactcc	tgtcgggtcc	ttgctcattg	300
ccatgttcag	ttacacattc	ggcaaagtac	agggcaacag	cnatctctac	tgggaaggcc	360
agcgttncgg	cctcatccgg					380

<210> 85
 <211> 481
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_f ature

<222> {1}...{481}

<223> n = A,T,C or G

<400> 85

gagttagctc	ctccacaccc	ttgatgaggt	cytctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcgtc	atactgtagg	tttgcaccca	cctcctgcac	cttggggcgg	ctaataatcca	120
ggaaactctc	aatcaagtoa	ccgtcnatna	aacctgtggc	tggttctgtc	ttccgctcgg	180
tgtgaaagga	tctccagaag	gagtgtctga	tcttcccccac	acttttgatg	actttattga	240
gtcgattctg	catgtccagc	aggaggttgt	accagctctc	tgacagttag	gtcaccagcc	300
ctatcatgcc	nttgaacgtg	ccgaagaaca	cagagccttg	tgtggggggt	gnagtctcac	360
ccagattctg	cattaccaga	nagccgtggc	aaaaganatt	gacaactcgc	ccaggnggaa	420
aaagaacacc	tcttggaggt	gctngccgct	cctcgtccnt	tggtggnggc	gcntnccctt	480
t						481

<210> 86

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{472}

<223> n = A,T,C or G

<400> 86

aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatin	ttgtctgctg	agaattcatt	60
acttggaaaa	gcaccttnaa	gcctggacac	tggtattaaa	attcacaata	tgcaacacct	120
taaacagtgt	gtcaatctgc	tcctttaact	tgatcatcac	agtctgggaa	taagggtatg	180
ccctattcac	acctgttaaa	agggcgctaa	gcatttttga	ttcaacatct	ttttttttga	240
cacaagtcog	aaaagaagca	aagtaaacag	ttnttaactt	gttggcccat	tcactttctt	300
catgggacag	aqccatttga	tttaaaaaag	aatctgcata	atattgagct	ttgggagctg	360
atatnlagag	ggaagantag	cctttctact	lcaccagaca	caactccttt	catattggga	420
tgtaacnnaa	agltctgtct	cttaccagag	ggatgcttct	gtggcaattc	tg	472

<210> 87

<211> 413

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{413}

<223> n = A,T,C or G

<400> 87

agaaaccagt	atctctnaaa	acnacctctc	ataccttqlg	gacctaaatt	tgtgtgcgtg	60
tgtgtgtgcy	cgcataattat	atagacagge	acalcctttt	tacttttgta	aaagettatg	120
cccttttggt	atctatatct	gtgaaagttt	taattgatctg	ccataatgtc	ttggggacct	180
ttgtcttctg	tgtaaatggc	actagagaaa	acacctatnt	tatgagtcaa	tctagttngt	240
tttatccgac	atgaaggaaa	tttccagatn	acacacttne	caaactctcc	cttgactagg	300
ggggacaaaq	aaaagcanaa	ctgaacatne	gasacaattn	cctgggtgaga	aattncataa	360
acagaaaltg	ggtngtatat	tgaanannng	catcattnaa	acgttttttt	ttt	413

<210> 88

<211> 448

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{448}

<223> n = A,T,C or G

<400> BB
 cgcagcgggt cctctctatc tagctccagc ctctcgctg cccactccc cgcgtccgc 60
 gtcttagccn acctggccg ggcctctgcg cgcctcgctg ctctgctgg ccactctggc 120
 cgtggccctg gcgtgagcc cgcggcccg ctccagtccc ggcaagccgc cgcgcctggc 180
 gggaggccca tggaccocgc gtggaagaag aaggtgtgcg gcgtgactg gactttgccc 240
 tcggcnanta caacaaccc gcaacnaact ttaccnagcn cgcgtgcag gttgtgcgc 300
 cccaancaaa ttgttactng gggtaantaa ttcttggaag ttgaacctgg gccaaacnng 360
 tttaccagaa ccnagccaat tngaacaatt nccctccat nacagccct tttaaaagg 420
 gaancantcc tgnctctttc caaatitt 448

<210> 89
 <211> 463
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (463)
 <223> n = A, T, C or G

<400> 89
 gaattttgtg cactggccac tgtgatggaa ccattgggcc aggatgcttt gagtttatca 60
 gtagtgattc tgcacaagtt ggtgttgtaa catgagtatg taaaatgtca aaaaatttagc 120
 agaggctctag gtctgcatac cagcagacag ttgtccgtg tattttgtag ccttgaagtt 180
 ctccagtaca agttntttct gatgcgaagt cttnattcca gtgttttagt cctttgcctc 240
 tttnatgttn agacttgcct cttnnaaatt gcttttgtnt totgcaggta ctatctgttg 300
 ttttaacaaa tagaannact tctctgcttn gaanatttga atatcttaca tctnaaaatn 360
 aattctctcc ccattannaa acccangccc ctggganaat ttgaaaaang gntccttcnn 420
 aattcnnana anttcagntc tcatccaca naacngganc ccc 463

<210> 90
 <211> 400
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1) ... (400)
 <223> n = A, T, C or G

<400> 90
 agggattgaa ggtctntnt actgtggac tgttcancca ccaactctac aagttgctgt 60
 ctccactca ctgtctgtca gcntnttaac ccagactgta tottcatata tagacaaat 120
 tottccaccg tcacatcttc taggaccttt ttggattcag ttagtataag ctcttccat 180
 tctttgtta agacttcatc tggtaaagtc ttaagttttg tagaaaaggaa tttattgct 240
 cgttctctaa caatgtctc tcttgaagt atttggctga acaaaccacc tnaagtcct 300
 ttgtgcater attttaata tacttaata ggcattggtn cactaagtla aattctgcaa 360
 gagtcatctg tctgcaaaag ttgcgttagt atatctgcaa 400

<210> 91
 <211> 480
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_featur
 <222> (1) ... (480)
 <223> n = A, T, C or G

<400> 91
 gagctcggat ccaataatct ttgtctgagg gcagcacaca tatncagtgc catgnaact 60

ggtctacccc	acatggggagc	agcatgcogt	agntatataa	ggtcattccc	tgagtcagac	120
atgcctcttt	gaactaccgtg	tgccagtget	ggtagttctc	acacacotcc	nncogctctt	180
tgtggaaaaa	ctggcacttg	ncgggaacta	gcaagacatc	acttacaaat	tcaccc cga	240
gacacttgaa	aggtgtaaca	aagcgactct	tgcatgtgtt	tttgcacctc	cggcaccagt	300
tgtcaatact	aacccgctgg	tttgctccca	tcacatttgt	gatctgtage	tcgggataca	360
tctcctgaca	gtactgaaga	acttcttctt	ttgtttcaaa	agcaactctt	ggtgcctgtt	420
ngatcaggtt	cccatftccc	agtcgnaetg	ttcacatggo	atatnttaet	tcccacaaaa	480

<210> 92
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 92	
atacagcccc	natccracca
ggteccgctg	tagcccccagc
cccacgcagg	cagcagcggg
taantgcagg	aagaggctga
tgacgcgaaa	ctcctcgatg
gaaccttccg	cctgtttctt
accagcggac	aaacggcggt
aggaacggcn	ccagcgtgtc
caggtcaatg	tgggtgaanc
ctccgcgggt	aattggcg
60	
ggtccgctg	tagcccccagc
gactctccac	ctgctggaaag
cggttgatgc	tgcaetcttt
120	
gactccact	cgtggettg
ggttgacggg	gtgggggacc
240	
gtccaccagg	atgcccgaet
gtgcccgaet	gtgggggacc
300	
ggaagcgaat	gangcccagg
gocctgcccc	tcggcctcgg
360	
ccgetnacac	tcggcctcgg
gtcccgctcc	420
tcggcctcgg	477

<210> 93
 <211> 377
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(377)
 <223> n = A,T,C or G

<400> 93	
gaacggctgg	accttgctc
gctgcccgc	gctgcccgc
cgcctcaatg	cagaaccant
tgatttctac	tggggaattc
caacacacaa	alaacatgtt
aaqaaalac	tactgttaca
ataaatatat	tattaaa
60	
gctggcagga	ataccttgge
gaagctaagc	ctgctctggt
ctgtgtttag	agllaagagt
120	
cagtgttctc	cagtgttctc
ttccaaacaa	240
gttglataaa	aglanglqal
300	
tattttattg	tactctgga
360	
377	

<210> 94
 <211> 495
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(495)
 <223> n = A,T,C or G

<400> 94	
ccctttgagg	ggttaggggc
cgagctgang	cagatttccc
ccaaggaaag	accacettct
gaaggcccaa	ttccqgqgct
60	
tggaagaaac	agggcaggag
ggctctagtc	tctgacccct
120	
gctggagggc	agggcctaga
ggcaccaggg	240
aggggctctg	tgtagccccc

acgaggaana	ggccctgnt	cctgggates	nacacccctt	caagtgtatc	cccacacaaa	300
tgcaagctca	ccaagggtccc	ctctcagtec	cttccctaca	ccctggaagg	ncactggccc	360
acacccaccc	agancancca	cccgccatgg	ggaatgtncr	caagggaatcg	cngggcaacg	420
tggactctng	lcccnnaagg	gggcagaate	tccaatagan	ggahngascc	cttgcctnana	480
aaaaaaaaaa	aaaaa					495

<210> 95

<211> 472

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(472)

<223> n = A,T,C or G

<400> 95

ggttacttgg	tttcattgce	accatttagt	ggatgtcatt	tagaaccatt	ttgtctgctc	60
cctctggaag	ccttgcgcag	agcggacttt	gtaattgttg	gagaataact	gctgaatttt	120
tagctgtttt	gagttgatto	gcacuaetgc	cccacacac	aatctgaaa	ctatttnact	180
tatttattat	cttgtgaaa	gtatacaatg	aaaattttgt	tcalautgtc	tttatcaagt	240
atgatgaaa	gcaatagata	tatattcttt	tattatgttn	aattatgatt	gccattatta	300
atcgccaaa	tgtggagtgt	atgttctttt	cacagteata	tatgcccttt	gtaccltcac	360
tkggttattt	tattgtaaal	gaattacaaa	attctteatt	taagaaaatg	glangttata	420
tttatttcan	taattctttt	ccttgtttac	gttaattttg	aaaagaatgc	at	472

<210> 96

<211> 476

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(476)

<223> n = A,T,C or G

<400> 96

ctgaagcatt	tcttcaaat	tnctactttt	tgctattgal	acclgtagta	agttgacaat	60
gtggtgaaat	ttcaaaatla	tctgttaact	ctacaglttt	tactttctcc	cccagctctt	120
tttttaactc	tgatltttac	acacacaaatc	cagaacttat	tctatagcct	ctaaagtcttt	180
atctttcaca	gtgatgatg	aaagagtcct	ccagtgtctt	gngcanaatg	ttctagntat	240
agctggatag	atacngtggg	agttctataa	actcatacct	cagtgggact	naaccaaaat	300
tgtgttagtc	tcaattccta	ccacactgag	ggagcctccc	aaatcaactat	attcttatct	360
gcaggtactc	ctccagaaaa	acngacaggg	caggcttgca	tgaaaaagtn	acatctgcgt	420
tacaaagtct	atcttctcca	nangtctgtn	aaggaaacaa	ttaattctct	agcttc	476

<210> 97

<211> 479

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(479)

<223> n = A,T,C or G

<400> 97

actttttcta	atgctgatat	gattcttgagt	ataagaatgc	atatgtcact	agaatggata	60
aaataatgct	gcaaaactta	tgttcttatg	caaatggaa	cgctaattgaa	acacagctta	120
caatcgcaaa	tcaaaactca	caagtgcctca	tctgtgttag	atttagtgta	ataagactta	180
gattgtgctc	cttcggatat	gattgtttct	canatcttgg	gcaatnttcc	ttagtcaaat	240
caggtactca	gaattctggt	attggatatn	tgagagcatg	aaatttttaa	naatacaactt	300

gtgattatna aattatcac aattttcact	tatacctgct atcagcagct agaaaaacat	360
ntntttttta natcaaagta ttttgtgttt	ggaantgttn aattgaaatc tgaatgtggg	420
ttcatcttta ttttttcccn gacnactant	tnctttttta ggnct ttc tganccatc	479

<210> 98
 <211> 461
 <212> DNA
 <213> Homo sapien

<400> 98		
agtgaactgt cctccaacaa aaccccttga	tcaagtttgt ggcactgaca atcagaccta	60
tgtatgttcc tgtcatctat tgcctactaa	atgcagactg gaggggacca aaaaggggca	120
tcaactccag ctggattatt ttggagcctg	caaactctatt cctacttgta cggactttga	180
agtgaattcag ttctctctac ggatgagaga	ctggctcaag aatatctca tgcagcttta	240
tgaagccact ctgaacacgc tggttatcta	gatgagaaca gagaataaa gtcagaaaat	300
ttacctggag aaaagaggct ttggctgggg	accatcccat tgaaccttct ctttaaggact	360
tttaagaaaa ctaccacatg ttgtgtatcc	tgggtgcggc cgtttatgaa ctgaccaccc	420
tttgaataaa tcttgacgct cctgaacttg	ctcctctgog a	461

<210> 99
 <211> 171
 <212> DNA
 <213> Homo sapien

<400> 99		
gtggcgcggc gcagggtgttt cctcgtaccg	caggggcccc tcccttcccc aggggtccct	60
cggcgctctc gggggcccca ggaggagcgg	ctggcgggtg gggggagtgt gaccacacct	120
cgggtgagaaa agccttctct acgcatctga	gaggcgtgcc ttgggggtac c	171

<210> 100
 <211> 269
 <212> DNA
 <213> Homo sapien

<400> 100		
cggcgcgaag tgaactcua gctggggcgg	tggggacgaa gattctgcca gcagttggtc	60
cgaactgagac gaggcgggcg ggcacagtcg	cagggtgcgc gggggcgctt ggggtcttgc	120
aaggctgagc tgacgncga gaggctcgtg	cagctccac gaccttgacg ccgtcgggga	180
cagccggac agagcccggt gaagcgggag	gcctcgggga gcccctcggg aaggcgggcc	240
cagagagatc gcaggtgcag gtggccgc		269

<210> 101
 <211> 405
 <212> DNA
 <213> Homo sapien

<400> 101		
tttttttttt ttttggaaac taatgcgagc	acagcaggto agcaacaagt ttattttgca	60
gctagcaagg taacagggtg gggcatgggt	acatgttcaq gtcaacttcc ttltctgtgg	120
ttgattgggt tgtttttatg ggggcggggg	ggggtagggg aaacgaagca aataacclgg	180
agtgggtgca cccctccctgt agaacclgg	tacaaggtt ggggcagttc accctggctg	240
tgaacgcat tttcttgaca tcaclgttat	tagaagtcag gatattctt agagagtcga	300
ctgtcttggg gggagattag ggtttcttgc	caaactcaac aaatccact gaaaaagttg	360
galqatcagt acgaatcccg aggcataatt	tcatactggg ggcca	405

<210> 102
 <211> 470
 <212> DNA
 <213> Homo sapien

<400> 102		
tttttttttt tttttttttt tttttttttt	tttttttttt tttttttttt	60

ggcacttaat	ccatttttat	ttcaaatgt	ctcccaattt	aatccatta	tacggatatt	120
tcaaatcta	aattattcaa	attagucaaa	locttcccaa	ataatcccc	aaatcaaaa	180
atataattct	ttcagcaaac	ttgttacata	aattcaaaaa	atatafacgg	ctgggtgttt	240
caaagtacaa	ttatcttaac	autgcaaacu	tttcaaggaa	ctaaaataaa	aaazaacact	300
cggcaaaagt	taaaggggaa	aaacaattct	tttcaaacac	cattataaaa	atcatatctc	360
aatctttagg	ggaaatatata	cttcaacagg	gatcttaact	tttaactcact	ttgtttattt	420
ttttaaacca	ttgttttggc	ccacacacat	ggaaaccccc	ctggactagt		470

<210> 103
 <211> 581
 <212> DNA
 <213> Homo sapien

<400> 103						
tttttttttt	ttttttttga	ccccctctt	ataaaaaaca	agttaccatt	ttattttact	60
tacacatatt	tattttataa	ttggtattag	atattcaaaa	ggcagctttt	aaaatcaaac	120
taaatggaaa	ctgccttcaa	tacataattc	ttaggaaatta	gottaaatc	tgcctaaagt	180
gaaaatcttc	tctagctctt	ttgactgtaa	atttttgact	cttgtaaaaa	atccaaattc	240
attcttcttg	tttttaaaat	tatctaattc	ttccattttt	ttccatttcc	aagtcatttt	300
gcttctctag	cctcatcttc	tagctcttat	ctactattag	taagtggctt	tttloctaaa	360
agggaacaca	ggaagagaaa	tggcacacaa	aacaaacatt	ttatattcat	atttctacct	420
acgttaataa	aatagcattt	tgtgaagcca	gctcaaaaga	aggcttagat	ccttllalgt	480
ccattttagt	cactaaacga	tatcaaatgt	ccagaatgca	aaaggtllgt	gaacatttat	540
tcaaaagcta	atataagata	tttcaacata	tcctctllct	q		581

<210> 104
 <211> 578
 <212> DNA
 <213> Homo sapien

<400> 104						
tttttttttt	tttttttttt	tttttctctt	cttttttttt	gaaatgagga	togaqttttt	60
cactctctag	atagggcatg	aagaaaaact	atctttccag	ctttaaata	acaatcaaat	120
ctcttatgct	atatcatatt	tttaagttaa	ctaagttagt	actggcttat	cttctcttga	180
aggaaatctg	ttcattcttc	tcattcatat	agttatatca	agtactacct	hgcataattga	240
gagggttttt	ttctctatit	acacatatat	ttccatgiga	atttctctca	aaccttttatt	300
ttcatgcaaa	ctagaaaata	atgtttcttt	tgcataagag	agagagaacaa	tatagcatta	360
caaaactgct	caaatgtttt	gttaagttaa	ccatctatct	tagttggcag	gagctaatac	420
aaatcacatt	tacgacagca	ataataaaaac	tgaagtacca	gttaaatatc	caaaaataatt	480
aaaggaaact	ttttagcctg	ggtataatla	gctaattcac	tttacaagca	tttattagaa	540
tgaattcaca	tgttattatt	cctagcccaa	cacaatgg			578

<210> 105
 <211> 538
 <212> DNA
 <213> Homo sapien

<400> 105						
tttttttttt	tttttcagta	ataatcagaa	caatatittat	tttlatattt	aaatttcata	60
gaaagtggcc	ttacatttaa	taaaagtttg	tttctcaaaq	tgtcagagg	aattagatat	120
gtcttgaaca	ccaatattaa	tttgaggaaa	ataacacaaa	atccattaaq	taattatttt	180
aagatcatag	agcttgttaa	tgaagaagata	aaalltgacc	tcagaaactc	tgaacattaa	240
aaatccacta	ttagcaataa	nattactatg	gaattctctg	tttaattttg	tgatgaatat	300
gggggtgtac	tggtaaacca	acacattctg	aaggatatac	tacttagtga	tagattctta	360
tgtacttttg	taatacgtgg	atatgagttg	acaagtttct	ctttcttcaa	tcttttaagg	420
ggcgagaaaat	gaggaagaaa	agaaaggaat	laagcatact	gttctttcta	tgggaaggatt	480
agatatgttt	cctttgccc	tattaaaaaa	ataatcaatgt	ttactactag	tgaacccc	538

<210> 106
 <211> 473
 <212> DNA
 <213> Homo sapien

<400> 106

tttttttttt	tttttttagtc	aagttttctat	ttttattata	attaaagtct	tgttcatttc	60
atttatttagc	tctgcaactt	acatatttaa	attaaagaaa	cgtttttagac	aactgtacaa	120
tttataaatg	taagggtgca	ttattgagta	atataattcct	ccaagagtgg	atgtgtccct	180
tctccaccca	actaatgaa	agcaacatta	gtttaatttt	attagtagat	atacaactgct	240
gcaaacgcta	attctcttct	ccatcccat	gtgatattgt	gtatatgtgt	gagttggtag	300
aatgcacac	aatctacat	caacagcaag	atgaagctag	gctgggtttt	cggtgaaat	360
agactgtgtc	tgltcgaatc	aactgctctg	acctatcctc	ggtggcaaga	actcttcgaa	420
ccgtctctct	aaaggcgtctg	ccacaktgt	ggtcttttgc	acttgtttca	aaa	473

<210> 107

<211> 1621

<212> DNA

<213> Homo sapien

<400> 107

cgccatggca	ctgcaggcca	tctcgggtcat	ggagctgtcc	ggcctggccc	cgggcccggtt	60
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<210> 108

<211> 382

<212> PRT

<213> Homo sapien

<400> 108

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Arg	Val	Asp	Arg	Pro	Gly	Ser	Arg	Tyr	Asp	Val	Ser	Arg	Leu	Gly	Arg
			35				40					45			
Gly	Lys	Arg	Ser	Leu	Val	Leu	Asp	Leu	Lys	Gln	Pro	Arg	Gly	Ala	Ala
			50			55				60					
Val	Leu	Arg	Arg	Leu	Cys	Lys	Arg	Ser	Asp	Val	Leu	Leu	Glu	Pro	Phe
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Arg Arg Gly Val Met Glu Lys Leu Gln L u Gly Pro Glu Ile Leu Gln
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 Arg Glu Asn Pro Arg Leu Ile Tyr Ala Arg Leu Ser Gly Phe Gly Gln
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 Ser Gly Ser Phe Cys Arg Leu Ala Gly His Asp Ile Asn Tyr Leu Ala
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 Leu Ser Gly Val Leu Ser Lys Ile Gly Arg Ser Gly Glu Asn Pro Tyr
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 Ala Pro Leu Asn Leu Leu Ala Asp Phe Ala Gly Gly Gly Leu Met Cys
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 Ala Leu Gly Ile Ile Met Ala Leu Phe Asp Arg Thr Arg Thr Asp Lys
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 Gly Gln Val Ile Asp Ala Asn Met Val Glu Gly Thr Ala Tyr Leu Ser
 180 185 190
 Ser Phe Leu Trp Lys Thr Gln Lys Ser Ser Leu Trp Glu Ala Pro Arg
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 Gly Gln Asn Met Leu Asp Gly Gly Ala Pro Phe Tyr Thr Thr Tyr Arg
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 Tyr Glu Leu Leu Ile Lys Gly Leu Gly Leu Lys Ser Asp Glu Leu Pro
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 Asn Gln Met Ser Met Asp Asp Trp Pro Glu Met Lys Lys Lys Phe Ala
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 Gly Thr Asp Ala Cys Val Thr Pro Val Leu Thr Phe Glu Glu Val Val
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 His His Asp His Asn Lys Glu Arg Gly Ser Phe Ile Thr Ser Glu Glu
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 Gln Asp Val Ser Pro Arg Pro Ala Pro Leu Leu Leu Asn Thr Pro Ala
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 Ile Pro Ser Phe Lys Arg Asp Pro Phe Ile Gly Glu His Thr Glu Glu
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<210> 109

<211> 1524

<212> DNA

<213> Homo sapien

<400> 109

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<210> 110

<211> 3410

<212> DNA

<213> Homo sapien

<400> 110

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<210> 111
 <211> 1289
 <212> DNA
 <213> Homo sapien

<400> 111						
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<210> 112
 <211> 315
 <212> PRT
 <213> Homo sapien

<400> 112															
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			20					25					30		
Phe	Phe	Leu	Phe	Phe	Leu	Gly	Val	Trp	Leu	Val	Ala	Tyr	Gly	Val	Ala
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Thr	Glu	Gly	Leu	Leu	Arg	Pro	Arg	Asp	Ser	Asp	Phe	Pro	Ser	Ile	Leu
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Gln	Glu	Asp	Met	Asp	Val	Ala	Leu	Met	Glu	His	Ser	Asn	Cys	Ser	Ser
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Glu	Pro	Gly	Phe	Trp	Ala	His	Pro	Pro	Gly	Ala	Gln	Ala	Gly	Thr	Cys
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Val	Ser	Gln	Tyr	Ala	Asn	Trp	Leu	Val	Val	Leu	Leu	Leu	Val	Ile	Phe

L u	Leu	Val	Ala	Asn	Ile	Leu	Leu	Val	Asn	Leu	Leu	Ile	Ala	Met	Phe
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Ala	Gln	Arg	Tyr	Arg	Leu	Ile	Arg	Glu	Phe	His	Ser	Arg	Pro	Ala	Leu
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Ala	Pro	Pro	Phe	Ile	Val	Ile	Ser	His	Leu	Arg	Leu	Leu	Leu	Arg	Gln
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Trp	Glu	Ser	Val	Hie	Lys	Glu	Asn	Phe	Leu	Leu	Ala	Arg	Ala	Arg	Asp
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Lye	Arg	Glu	Ser	Asp	Ser	Glu	Arg	Leu	Lys	Arg	Thr	Ser	Gln	Lys	Val
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			260					265						270	
Leu	Lys	Val	Leu	Glu	Arg	Glu	Val	Gln	Gln	Cys	Ser	Arg	Val	Leu	Gly
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Trp	Val	Ala	Glu	Ala	Leu	Ser	Arg	Ser	Ala	Leu	Leu	Pro	Pro	Gly	Gly
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<210> 113
<211> 553
<212> PRT
<213> Homo sapien
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<400> 113																		
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Ala	Ala	Gly	Ile	Thr	Tyr	Val	Pro	Pro	Leu	Leu	Leu	Glu	Val	Gly	Val			
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Glu	Glu	Lys	Phe	Met	Thr	Met	Val	Leu	Gly	Ile	Gly	Pro	Val	Leu	Gly			
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Leu	Val	Cys	Val	Pro	Leu	Leu	Gly	Ser	Ala	Ser	Asp	His	Trp	Arg	Gly			
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Arg	Tyr	Gly	Arg	Arg	Arg	Pro	Phe	Ile	Trp	Ala	Leu	Ser	Leu	Gly	Ile			
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Leu	Cys	Pro	Asp	Pro	Arg	Pro	Leu	Glu	Leu	Ala	Leu	Leu	Ile	Leu	Gly			
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Val	Gly	Leu	Leu	Asp	Phe	Cys	Gly	Gln	Val	Cys	Phe	Thr	Pro	Leu	Glu			
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			180				185						190					
Gly	Thr	Gln	Glu	Glu	Cys	Leu	Phe	Gly	Leu	Leu	Thr	Leu	Ile	Phe	Leu			
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Thr	Cys	Val	Ala	Ala	Thr	Leu	Leu	Val	Ala	Glu	Glu	Ala	Ala	Leu	Gly			
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Cys Cys Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala L u
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 Thr Leu Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val
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 Pro Arg Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly
 305 310 315 320
 Val Arg Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu
 325 330 335
 Val Phe Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg
 340 345 350
 Ala Val Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala
 355 360 365
 Thr Cys Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu
 370 375 380
 Thr Gly Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala
 385 390 395 400
 Ser Leu Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly
 405 410 415
 Asp Thr Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu
 420 425 430
 Pro Gly Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala
 435 440 445
 Gly Gly Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser
 450 455 460
 Ala Cys Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala
 465 470 475 480
 Arg Val Val Pro Gly Arg Gly Ile Cys Leu Asp Leu Ala Ile Leu Asp
 485 490 495
 Ser Ala Phe Leu Leu Ser Gln Val Ala Pro Ser Leu Phe Met Gly Ser
 500 505 510
 Ile Val Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala
 515 520 525
 Gly Leu Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp
 530 535 540
 Lys Ser Asp Leu Ala Lys Tyr Ser Ala
 545 550

<210> 114

<211> 241

<212> PRT

<213> Homo sapien

<400> 114

Met Gln Cys Phe Ser Phe Ile Lys Thr Met Met Ile Leu Phe Asn Leu
 1 5 10 15
 Leu Ile Phe Leu Cys Gly Ala Ala Leu Leu Ala Val Gly Ile Trp Val
 20 25 30
 Ser Ile Asp Gly Ala Ser Phe Leu Lys Ile Phe Gly Pro Leu Ser Ser
 35 40 45
 Ser Ala Met Gln Phe Val Asn Val Gly Tyr Phe Leu Ile Ala Ala Gly
 50 55 60
 Val Val Val Phe Ala Leu Gly Phe L u Gly Cys Tyr Gly Ala Lys Thr
 65 70 75 80
 Glu Ser Lys Cys Ala Leu Val Thr Phe Phe Ile Leu Leu Leu Ile
 85 90 95
 Phe Ile Ala Glu Val Ala Ala Ala Val Val Ala Leu Val Tyr Thr Thr
 100 105 110
 Met Ala Glu His Phe Leu Thr Leu Leu Val Val Pro Ala Ile Lys Lys

115	120	125
Asp Tyr Gly Ser Gln Glu Asp Phe Thr Gln Val Trp Asn Thr Thr Met		
130	135	140
Lys Gly Leu Lys Cys Cys Gly Phe Thr Asn Tyr Thr Asp Phe Glu Asp		
145	150	155
Ser Pro Tyr Phe Lys Glu Asn Ser Ala Phe Pro Pro Phe Cys Cys Asn		
165	170	175
Asp Asn Val Thr Asn Thr Ala Asn Gly Thr Cys Thr Lys Gln Lys Ala		
180	185	190
His Asp Gln Lys Val Glu Gly Cys Phe Asn Gln Leu Leu Tyr Asp Ile		
195	200	205
Arg Thr Asn Ala Val Thr Val Gly Gly Val Ala Ala Gly Ile Gly Gly		
210	215	220
Leu Glu Leu Ala Ala Met Ile Val Ser Met Tyr Leu Tyr Cys Asn Leu		
225	230	235
Gln		240

<210> 115
 <211> 366
 <212> DNA
 <213> Homo sapien

<400> 115
 gctttttctc tccctctctc tgaatttaac tctttcaact tgcattttgc aaggattaca 60
 cttttcaactg tgaatgtatat tgtgttgcaa aaaaaaaaaa gtgtctttgt ttaaaattac 120
 ttggtttgtg aatccatctt gctttttccc cattggaact agtcattaac ccctctctga 180
 actggtagaa aaacatctga agagctagtc tctcagcctc tgacaggtga attggatggt 240
 tctcagaacc atttcaccca gacagcctgt ttctatctct ttttaataat tagtttgggt 300
 tctctacatg cataacaaac cctgtctcca tctgtcactt aaaaagtctgt gacllgaaqt 360
 ttagtc 366

<210> 116
 <211> 282
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(282)
 <223> n = A,T,C or G

<400> 116
 acaaagatga accatttccct atattatagc aaaattaaaa tctaccctga ttctaatatt 60
 gagaatgag atnaaacaca atnttataaa gtctacttag agaagatcaa gtgacctcaa 120
 agactttact attttcatat ttttaagacac atgatttalc ctatttttgt aacctgggtc 180
 atacgtttaa caaaggataa tgtgaacagc agagaggatt tgttggcaga aattctatgt 240
 tcaatctngs acletctane tcacagacat ttctattcct tt 282

<210> 117
 <211> 305
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(305)
 <223> n = A,T,C or G

<400> 117
 acacatgtcg cttcactgcc ttcttagatg cttctgggtca acatanagga acagggaaca 60
 tatttatcct cctcctgaa acaattgcaa aataaacaa aatatatgaa acaattgcaa 120

aataaggcaa aatatatgaa acaacaggto togagatatt ggaatcagt caatgaagga 180
 tactgatccc tgatcaactgt cctaatgcag gatgtgggaa acagatgagg tcacctctgt 240
 gactgcccc gcttactgcc tgtagagagt tictangetg cagttcagac agggagaaat 300
 tgggt 305

<210> 118

<211> 71

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(71)

<223> n = A,T,C or G

<400> 118

accaagggtgt ntgaatctct gacgtgggga tctctgattc ccgcacaatc tgagtggaaa 60
 santcctggg t 71

<210> 119

<211> 212

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(212)

<223> n = A,T,C or G

<400> 119

actccggltg gtgtcagcag cactggcat tgaacatngc aatgtggagc ccaaacccaca 60
 gaaaatgggg tgaaattggc caactttcta tnaacttatg ttggcaantt tgccaccaac 120
 agtaagctgg cctttctaact aaagaaaaat tgaaagggtt ctoactaanc ggaattaant 180
 aatggantca aganactccc aggcctcagc gt 212

<210> 120

<211> 90

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(90)

<223> n = A,T,C or G

<400> 120

actcgttgca natcaggggc cccccagagt caccgttgca ggagtccttc tggctcttgcc 60
 ctccgcgggc gcagaacatg ctgggggtgg 90

<210> 121

<211> 218

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(218)

<223> n = A,T,C or G

<400> 121

tgtanogtga anacgacaga nagggttgto aaaaatggag aanccttqua gtcatttlga 60
 gaataagatt tgctaaaga ttggggcta aaacatgggt attggagac atttctgag 120

atatncangt aaattangga atgaattcat ggttcttttg ggaattcctt tccgatngcc 180
agcatanact tcatgtgggg atanceagctc cctttgta 210

<210> 122
<211> 171
<212> DNA
<213> Homo sapien

<400> 122
tggggglqta tgcacactga aggcacaaaa ttgagactca actggcttaa ccaataaagg 60
catttggttag ctcatggac aggaagtcgg atggtggggc atcttcagtg ctgcatgagt 120
caccaccccg qcgggggtcat ctgtgccaca ggtccctgtt gacagtgcgg t 171

<210> 123
<211> 76
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature
<222> (1) ... (76)
<223> n - A, T, C or G

<400> 123
tgtagcgtga agacnacaga atggtgtgtg ctglactate caggacacaa tttatlatca 60
ttatcaanta ttgtgt 76

<210> 124
<211> 131
<212> DNA
<213> Homo sapien

<400> 124
acctttccc aaggccaatg tccgtgtgtg taactggccg gctgcaggac agctgcaatt 60
caatgtgctg ggtcatatgg agggggaggag actctaaant agccaatttt attctcttgg 120
ttaagatttg t 131

<210> 125
<211> 432
<212> DNA
<213> Homo sapien

<400> 125
accltalcta ctggctatga aatagatggg ggaaaattgc gttaccaact ataccactgg 60
cttgaasaaag aggtgatagc tcttcagagg acttgtgact tttgtcaga tgcgaagaa 120
ctacagtcctg catttggcag aaatgaagat gaatttggat taaatgagga tgcgaagat 180
ttgcttcacc aaacaaaagt gaaacaactg agagaaaatt ttcaggaaaa aagacagtgg 240
ctcttgaaat atcagtcact ttgagaatg tttcttagtt actgcatact tcatggatcc 300
catggtgggg gtcttcgcat tgtaagaatg gaattgattt tgccttttga agaattctcag 360
caggaaacat cagaaccact attttctaga cctctgtcag agcaaacctc agtgcctctc 420
ctctttgctt gt 432

<210> 126
<211> 112
<212> DNA
<213> Homo sapien

<400> 126
acacaacttg aatagtaaaa tagaaclga gctgaatttt ctaattcact lictaaccat 60
agtaagaatg utattttccc ccagggtcc ccaatatatt aaaaaattt gt 112

<210> 127

<211> 54
 <212> DNA
 <213> Homo sapien

<400> 127
 accacgaaac cacaaacaaag atggaagcat caatccactt gccaaagcaca gcag 54

<210> 128
 <211> 323
 <212> DNA
 <213> Homo sapien

<400> 128
 acctcattag taattgtttt gttgtttcat ttttttctaa tgtctccctt ctaccagctc 60
 acctgagata acagaatgaa aatggaagga cagccagatt tctcctttgc tctctgtcga 120
 ttctctctga agtctagggt acccattttg gggaccatt ataggcaata aacacagttc 180
 ccaaagcatt tggacagttt cttgtttgtt tttagaatgg ttttcccttt tottagcctt 240
 ttctctgaaa aggtcactc agtcccttgc ttgtcagtgc gactgggctc cccagggcct 300
 aggtgtgcct cttttccatg tcc 323

<210> 129
 <211> 192
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(192)
 <223> n = A,T,C or G

<400> 129
 acatacatgt gtgtatattt ttaaatatca cttttgtatc actctgactt tttagcatatc 60
 tgaaaacaca ctaacataat ttntgtgaac catgatcaga tacaacccaa atcattcato 120
 tagcacattc atctgtgata naaagatagg tgagtttcat ttcccttcacg ttggccaatg 180
 gataaacaaa gt 192

<210> 130
 <211> 362
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(362)
 <223> n = A,T,C or G

<400> 130
 ccccttttta tggaaatgagt agactgtatg tttgaanatt tanccacaac ctctttgaca 60
 tataatgacg caacaaaag gtgtgtttaa gtccataggt taagtattatg cccctgacaa 120
 gtttccattg tgttttgacg atcttctgac taatogtggc atcctccatg ttattagtaa 180
 ttctgtatc cattttgtta acgcctggta gatataacct gctangagga taactttata 240
 cttattttaa agctcttatt ttgtgtcat taagtggca atttatgtgc agcattttat 300
 tgcagcagga agtccgtgtg ggttgggtgt aaggtcttt gclaatotta aaagtaatg 360
 99 362

<210> 131
 <211> 332
 <212> DNA
 <213> Homo sapi n

<220>
 <221> misc_f ature

<222> {1}... (332)

<223> n = A, T, C or G

<400> 131

ctttttgaaa	gategtgtcc	actcctgtgg	acatcttgtt	ttaatggagt	ttcccatgca	60
gtangactgg	tatgggttgc	gctgtccaga	taaaaacatt	tgaagagctc	caaaatgaga	120
gttctcccag	gttcgccctg	ctgctccaag	tctcagcage	agcctctttt	aggaggcato	180
ttctgaacta	gattaaggca	gcttgtaaat	ctgatgtgat	ttggttttatt	atccaaactaa	240
cttccatctg	ttatcactgg	agaaagccca	gactccccan	gaconggtacg	gatttgtgggc	300
atanaaggat	tgggtgaagc	tggcgttgtg	gt			332

<210> 132

<211> 322

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (322)

<223> n = A, T, C or G

<400> 132

actttttgcca	ttttgtalat	ataaaccaatc	ttggggacatt	ctcctgaaaa	ctaggtgtcc	60
agtggctaa	agaactcga	ttcaagcaat	tctgaagga	aaaccagcat	gacacagaat	120
ctcaattcc	caaacgggg	ctctgtggga	aaaatgaggg	aggacctttg	tatctcgggt	180
ttlagcaagt	taaaatgaan	atgacaggaa	aggcttatit	atcaacaaag	agaagagttg	240
ggatgcttct	aaaaaaaact	ttggtagaga	aaataggaat	gctnaatcct	agggagcct	300
gtaacaatct	acaattgggtc	ca				322

<210> 133

<211> 278

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (278)

<223> n = A, T, C or G

<400> 133

acaagccttc	acaagtttaa	ctaaattggg	attaatcttt	ctgtanttat	ctgcataatt	60
cttgtttttc	tttccatctg	gctcctgggt	tgacaatttg	tggaaacaa	tctattgcta	120
ctatttaaaa	aaaatcacia	atctttccct	ttaagctatg	ttnaattcaa	actattcctg	180
ctattcctgt	tttgtcaag	aaatttatatt	tttcaaaaata	tgtnatattg	tttgatgggt	240
cccacgaaac	actaataaaa	accacagaga	ccagcctg			278

<210> 134

<211> 121

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}... (121)

<223> n = A, T, C or G

<400> 134

gtttanaaaa	cttgtttagc	tccatagagg	aaagaatgtt	aaactttgta	ttttaaaaa	60
tgattctctg	aggttaaact	tggttttcaa	atgttatitt	tacttgatt	ttgcttttgg	120
c						121

<210> 135

<211> 350
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(350)
 <223> n - A,T,C or G

<400> 135
 acttanaacc atgcctagca catcagaatc cctcaaagaa catcagtata atcctataacc 60
 atancaagtg gtgactgggt aagcgtgcga caaagggtcag ctggcacatt acttgtgtgc 120
 aaacttgata cttttgttct aagttagaac tagtatacag tnoctaggan tggtaactcca 180
 ggggtgcccc caactcctgc agccgctcct ctgtgccagn cctgnaagg aactttcgt 240
 ccacctcaat caagccctgg gccatgctac ctgcaattgg ctgaacaaac gtttgetgag 300
 ttcccaaggga tgcaagcct ggtgctcaac tcttggggcg tcaactcagt 350

<210> 136
 <211> 399
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(399)
 <223> n - A,T,C or G

<400> 136
 tgtacogtga agacgacaga agttgcatgg caggggacagg gcaggggcoga ggccagggtt 60
 gctgtgattg tatccgaata ntocctcgtga gaaaagataa tgagatgacg tgacacagcct 120
 gcagacttgt gtctgccttc aanaagccag acagggaaggc cctgcctgcc ttgggtctga 180
 cctggcgggcc agccagccag ccacagggtgg gcttcttcc tttgtgtgga caacncccaag 240
 aaaaactgcag aggcccaggg tcaggtgtna gtgggtangt gaccalaaaa caccaggtgc 300
 tcccagggaac ccggggcaaaq gccatccccc cctacagcca gcctgcccac tggcgtgatg 360
 ggtgcagang galcaagcag ccagntgttc tgcLgtggt 399

<210> 137
 <211> 165
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(165)
 <223> n - A,T,C or G

<400> 137
 actgggtgtg tngggggtga tgctgggtgt anaagttgan gtgacttcan galgggtgtg 60
 ggaggaagtg tgtgaacgta gggatqtaga ngktttgcco gtgcLaaatg agcttcggga 120
 ttggctggte ccactgqctg tcactgtcat tggtaggglt cctgt 165

<210> 138
 <211> 338
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(338)
 <223> n - A,T,C or G

<400> 138

```

actcactgga atgccacatt cacaacagaa tcagaggtct gtgaaacat taatggctcc      60
ttaactctc cagtaagaat cagggaacttg aatgggaac gtaacagcc acatgcccac      120
tgctgggcag totcccatgc ctccacagt gaaagggtt gagaaatc acatccaaag      180
tcattgttt ccagccacac caaaagggtgc ttgggggtga gggctggggg catananggt      240
cangcctcag gaagcctcaa gtccattca gctttgcac tgcattcc ccatnttas      300
aaaaactgat gcttttttt tttttttttg taaaallo      338

```

<210> 139
 <211> 382
 <212> DNA
 <213> Homo sapien

```

<400> 139
gggaattottg gtttttggca tctggtttgc ctatagccga ggcactttg acagaacaaa      60
gaaagggaact tcaggtlaaga aggtgattta cagccagcct agtgcacga gtgaaggaga      120
attcaaacag acctcgtcat tcttgggttg agcctggctg gtcacccgc tatcatctgc      180
atttgacctta ctacagglgt accggactct ggcacctgat gtctgtagtt tcacaggatg      240
ccttatttlt ctctacacc ccacagggcc cctacttct tcggatgtgt ttttaataat      300
gtcagctatg tgcacatcc tcttccatgc cctccctccc ttccctacca ctgctgagtg      360
gcctgggaact tgttttaagt gt      382

```

<210> 140
 <211> 200
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...[200]
 <223> n = A,T,C or G

```

<400> 140
accgaanctt ctttctgttg tgttngattt tactataggg gttingctin ttctaaanat      60
acttttcatt taacancttt tgtaagtggt cagggtgcac ttgtctocat anaattattg      120
ttttcacatt tcaacttga tgtgtttgtc tottanagca ttggtgaat cacatatitt      180
atattcagca taaaggagaa      200

```

<210> 141
 <211> 335
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{335}
 <223> n = A,T,C or G

```

<400> 141
actllatttt cgaacacatc atatgttgca aaaaacacat agaaaaataa agtttggttg      60
gggtgctgac taaacttcaa gtcacagact tttatgtgac agattggagc aggytttgtt      120
atgcatgtag agaaccctaa ctaatttatt aaacaggata gaaacaggct gtctgggtga      180
aatggttctg agaaccatcc aattcacctg tcagatgctg atanactago tcttcagatg      240
ttttctacc agttcagaga tnggttaatg actanttcca atgggggaaa agcaagatgg      300
attcacaacc caagtaattt taaacaaaga cactt      335

```

<210> 142
 <211> 459
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature

<222> {1}...{459}

<223> n = A,T,C or G

<400> 142

accagggttaa	tattgccaca	tatatccttt	ccaattgcgg	gctaaacaga	cgtgtattta	60
gggttggtta	aagacaaccc	agcttaatat	caagagaaat	tgtgaccttt	catggagtat	120
ctgatggaga	aaacactgag	tittgacaaa	tcttatctta	tacagatagc	agtctgatca	180
cacatgggtc	aacaacactc	aaataataaa	tcaaataatn	tcagatgtta	aagattggtc	240
ttcaaacatc	atagccaatg	atgcccogct	tgcctataat	ctctccgaca	taaaaccaca	300
tcaacacctc	agtggccaac	aaaccattca	gcacagcttc	cttaactgtg	agctgtttga	360
agctaccagt	ctgagcacta	ttgactatnt	tittcanget	ctgaataget	ctagggatct	420
cagcangggg	gggaggaacc	agctcaacct	tggegtant			459

<210> 143

<211> 140

<212> DNA

<213> Homo sapien

<400> 143

acatttcctt	ccaccaagtc	aggactcctg	gcttctgtgg	gagttcttat	cacctgaggg	60
aaatccaaa	agtctctct	agaaaggaat	agtgtcacca	acccacacca	tctccctgag	120
acctccgac	tctccctgtg					140

<210> 144

<211> 164

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{164}

<223> n = A,T,C or G

<400> 144

acttcagtaa	caacatacaa	taacaacatt	aagtgtatat	tgccatcttt	gtcattttct	60
ctctatacaa	ctctcccttc	tgaascaan	aatcactanc	caatcactta	tacaaatttg	120
aggaatttaa	tccatatttg	tittcaataa	ggaaaaaag	atgt		164

<210> 145

<211> 303

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{303}

<223> n = A,T,C or G

<400> 145

agctagacca	tcaactttg	tatttgtaet	ggcaaacctc	cagnagaaat	tccaaacaa	60
actggagggt	atttatccc	aattatccc	ttcatttaaa	tgcctctctc	ctcaggctat	120
gcaggacago	tctcataagt	cggcccagge	atccagatac	taccatttgt	ataaectica	180
gtaggggagt	ccctccaaat	gacagggtct	atcaaaaggag	gaatggnaac	ataagcccag	240
tagtaaaatn	tlgcttagct	gaaacagcca	caaaagactt	accgccgtgg	tgattaccat	300
caa						303

<210> 146

<211> 327

<212> DNA

<213> Homo sapi n

<220>

<221> misc_feature
 <222> (1)...(327)
 <223> n = A,T,C or G

<400> 146
 actgcagctc aattagaagt ggtctctgac ttctcatcanc ttctccctgg gctccatgac 60
 actggcctgg agtgactcat tgcctctggt ggttgagaga gctcccttgc caacaggcct 120
 ccaagtcagg gctgggattt gtctctcttc cacattotag caacaatatg ctggccactt 180
 cctgaacagg gagggctgga ggagccagca tggacaagc tggccacttc taaagtatgc 240
 agacttgccc ctgggcctgt cacacctact gatgaccttc tctgacctga ggatggaatg 300
 taggggtgag ctgtgtgact ctatggt 327

<210> 147
 <211> 173
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(173)
 <223> n = A,T,C or G

<400> 147
 acattgtttt tttagagataa agcattgana gagctctcct taacgtgaca caatggaagg 60
 actggaacac ataccacat ctctgtcttg agggataatt ttctgataaa gtcttgctgt 120
 atattcaagc acatatgtta tatattatto agttccatgt ttatagccta gtt 173

<210> 148
 <211> 477
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(477)
 <223> n = A,T,C or G

<400> 148
 acaaccactt tatctcatcg aatttttaac ccaaactcac tcaactgtgc tttotatcct 60
 atgggatata ttatttgatg ctccatttca tcacacatat atgaataata cactcatact 120
 gccctactac ctgctgcaat aatcacattc ccttctgtgc ctgacctga agccattggg 180
 gtggctctag tggccatcag tccangcctg caccttgagc ccttgagctc cattgtctac 240
 nccancccac ctacccgacc ccctctctt acacagctac ctcttgctc tctaacccca 300
 tagattatnt cczaattcaq tcaattcagt tactattaac actctaccag acatgtccag 360
 caccactggg aagccttctc cagccaacac acacacacac acacacacac acacacatat 420
 ccaggccag gttacclcal ctccacaatc acccctttaa ttacustgcl atgggtgg 477

<210> 149
 <211> 207
 <212> DNA
 <213> Homo sapien

<400> 149
 acagttgtat tataatatca agaaataaac ttgcaatgag agcatttaag agggaagaac 60
 taacgtatct tagagagcca aggaagggtt ctgtggggag tgggatgtaa ggtggggcct 120
 gatgataaat aagaatcagc caggtaagtg ggtgggtgtg tatgggcaca gtgaagaaca 180
 tttcaggcag agggaacagc agtgaaa 207

<210> 150
 <211> 111
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(111)
 <223> n = A,T,C or G

<400> 150
 accttgattt cattgctgct ctagtggaac cccaactatc taatttagct aaacatggg 60
 cacttaaatg tggkacagtgt ttggacttgt taactantgg catctttggg t 111

<210> 151
 <211> 196
 <212> DNA
 <213> Homo sapien

<400> 151
 agcgcggcag gtcattttga acattccaga tacctatcat tactcgatgc tgttgataac 60
 agcaagatgg ctttgaactc agggtaacca ccagctattg gaccttacta tgaataaccat 120
 ggataccaac cggaaaaccc ctatcccgca cagcccactg tggccccac tgtctacgaq 180
 gtgcacccgg ctacgt 196

<210> 152
 <211> 132
 <212> DNA
 <213> Homo sapien

<400> 152
 acagcauttt ccatgctcag aagggagaaa ttccctaastg tagggagaaag ataacagAAC 60
 cttccccctt tcatctagtg gtggaaacct gatgctttat gttagacagga atagaaccag 120
 gagggagttt gt 132

<210> 153
 <211> 285
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(285)
 <223> n = A,T,C or G

<400> 153
 accaanaccca nganaggcca ctggccgtgg tgtcatggcc tccaaacatg aaagtgtcag 60
 ctltctgctct tatgtctctca tctgacaaat ctttaccatt ttatccctcg ctacgcagga 120
 gcacatcaat aaagtccaaa gtcttggaat tggccttggc ttggaggaag tcatcaaac 180
 cctggctagt gaggtgtggg cgcgctcct ggatgaaggc atctgtgaag togtgcacca 240
 gtctgcaggc cctgtggaag cgcgctccac aaggagtnag gaatt. 285

<210> 154
 <211> 333
 <212> DNA
 <213> Homo sapien

<400> 154
 accacagtcg tgttgggcca gggcttcatg accctttctg tggaaagcca tattalcaac 60
 acccaaat tttccttaa tatctttaa tgaaggggtc agcctcttga clqcaagagc 120
 cctaagccgg ttacacagct a ctccact ggccttgatt tgtgaattg ctgctgectg 180
 attggacag gactcgaagg tcltcaact cctcctccg tggaaagaga ctctgatttg 240
 agtttcacaa attctcgggc cactctgtca ttgtctctct gaataaaat ccggagaatg 300
 gtcaggcctg tctcatcct atggatcttc cgg 333

<210> 155

<211> 308
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(308)
 <223> n = A,T,C or G

<400> 155
 actggaaata ataaaaaccca catcacagtg ttgtgtcaaa gatcatcagg gcatggatgg 60
 gaaagtgett tgggaactgl aaagtgccta acacatgac gatgattttt gttataatat 120
 ttgaatcag gtgcatacaa actctactgc ctgctcctcc tgggccccag cccagcccc 180
 atcacagctc actgcctgtg tcatccaggc ccagcatgta gtggctgatt cttcttggct 240
 gcttttagcc tccanaagtt tctctgaagc caaccaaacc totangtga aggcattgctg 300
 gccctggt 308

<210> 156
 <211> 295
 <212> DNA
 <213> Homo sapien

<400> 156
 accttgcctg gtgcttgaa catattagga actcaaaata tgagatgata acagtgccta 60
 ttattgatta ctgagagaac tgttagacat ttagttagag allttolaca cagggaactga 120
 gaataggaga ttatgtttgg cctcatatt ctctccatc ctcccttggct cattctatgt 180
 ctaatafatt ctcaatcaa taaggttagc atactcagga aatcgaccaa ataccaatat 240
 aaaaaccagat gtctatcctt aaqattttca aatagaaacc aaattaacag actat 295

<210> 157
 <211> 126
 <212> DNA
 <213> Homo sapien

<400> 157
 acaagtttaa atagtgtgt catgtgcat gtgtgaaat gtgaaatcaa ccacatttch 60
 gaagagcaaa acaaatctg tcatgtatc totattttgg gtcgtgagta tatctgtccc 120
 cttagt 126

<210> 158
 <211> 442
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(442)
 <223> n = A,T,C or G

<400> 158
 acccaactgg cttagaaca cccatcctta atacgatgat tttctgtcg tgtgaaaatg 60
 aanccagcag gctgccccata gtcagtccct ccttccagag aaaaagagat ttgagaaagt 120
 gctgggttaa ttcaacatta atttccctcc cuaaactc c tgaatcttc cttaatattt 180
 ctgggtggtt tgaccaaagc aggtcatggt ttgtttagca tttggggtcc cagtgaaala 240
 natgtttgta gccttgcata cttagccctt cccacgcaca aacggaglgg cagctggtg 300
 ccaaccctgt ttcccaagtc cactgagaca gattcacagt gcaggaattct ggaagctgga 360
 nacagacggg ctctttgag agccgggact ctgagangga catgagggac tctgctctg 420
 tgttcattct ctgctgtcct gt 442

<210> 159
 <211> 498
 <212> DNA

<213> Homo sapi n

<220>

<221> misc feature

<222> (1)...(498)

<223> n = A,T,C or G

<400> 159

acttccagggt aacgttggtt tttccgttga gcttgaactg atgggtgacg ttgtaggttc	60
tccaacaaga actgaggttg cagagcgggt aggggaagagt gctgttccag ttgcacctgg	120
gctgtgtgtg actgttggtt attcctcact acggcccaag gttgtggaac tggcanaaag	180
gtgtgtgtgt gganttgagc tggggcggct gtggtaggtt gtgggtctct caacaggggc	240
tgctgtgtgt cggggangtg aangtgttgt gtcacttgag cttggccagc totggaaagt	300
antanattct tctgaaggc cagcgttgtt ggagutggca ngggtcantg ttgtgtgtaa	360
cgaaccagtg ctgctgtggg tgggtgtano tctccacaaa agcctgaagt tatgtgtctn	420
tcaggtaana atgtgttttc agtgtccctg ggcngctgtg qaaqgttgtc nttgttccc	480
aagggaalaa gctgtggt	498

<210> 160

<211> 380

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(380)

<223> n = A,T,C or G

<400> 160

aactgcctcc agcttccctg ccacacctcc aaggagacat caacctctcg acaqgggaaac	60
agcttcaggg taactccagg agacagagcc accagcagcc caacacat tatccctgctt	120
ggagcaltgc atagaggagc ctganaaatg tggggtctga ggaagccatt tgagtctggc	180
cactagacat ctcatcagcc acttgtgtga agagatgcc catgacccca gatgctctc	240
ccacccctac ctccatctca cacccttgag ctttccactc tgtataattc taacatctg	300
qagaaaatg gcagtttgac cgaacctgtc cacaacggta gaggtgatt tctaacgaaa	360
cttgtagaat gaagcctgga	380

<210> 161

<211> 114

<212> DNA

<213> Homo sapien

<400> 161

aactccatcc cctctgagc aggcgggtgt cgttcaaggt gtatttggcc ttgctgtca	60
cactgtccac tggccctta tccacttggt gcttaalccc tggaaagagc atgt	114

<210> 162

<211> 177

<212> DNA

<213> Homo sapien

<400> 162

acttlttgaa tggatcaaa tgatacttag tgtagtitta atatcctcat atatatcaaa	60
gttttaactac tctgataatt ttgtaaaoca ggtaaccaga acatccagtc atacagcttt	120
tggtgatata taacttggca ataaccagct ctggtgatac ataaaactac tcaactgt	177

<210> 163

<211> 137

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature
 <222> (1)...(137)
 <223> n = A,T,C or G

<400> 163

catttataca	gacaggcgtg	aagacattca	cgacaaaacc	gcgaaattct	atcccgtagc	60
canagaaggc	agctacggct	actcctacat	cctggcgtgg	gtggccttcg	cctgcacctt	120
catcagcggc	atgatgt					137

<210> 164
 <211> 469
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(469)
 <223> n = A,T,C or G

<400> 164

cttatccaa	tgaatgtct	cctgggcagc	gttgtgatct	tigccacctt	cgtgacttta	60
tgcaatgat	catgtatct	catacctaatt	gagggagttc	caggagattc	aaccaggaaa	120
tgcatggatc	tcgaaggaaa	caaacaccca	ataaactcgg	agtggcagac	tgacaactgt	180
gagacatgca	cttgcctcga	sacagaaatt	tcattgttga	cccttgcttc	tacacctgtg	240
ggttatgaca	sagacaactg	ccaaagaatt	ttcaagaagg	aggactgcan	gtatatcgtg	300
gtggagaaag	aggacccaaa	aaagaacctg	tctgtcagtg	aatggataat	ctaatgtgct	360
ctatagtaggc	acagggtctc	caggccaggc	ctcattctcc	tctggcctct	aatagtcaat	420
gatttgtgtag	ccatgcctat	cagtassaaag	atntttgagc	aaacacttt		469

<210> 165
 <211> 195
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(195)
 <223> n = A,T,C or G

<400> 165

acagtttttt	atanatatcg	acattgccgg	caettgtgtt	cagtttcaia	aaagctggtag	60
atccgctgtc	atccactatt	ccttggctag	agtaaaaatt	attcctctag	cccatgtccc	120
tgacggccgc	ccgccttag	ttctcgtccc	agtcgtcttg	gcacacaggg	tgccaggact	180
tcctctgaga	tgagt					195

<210> 166
 <211> 383
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(383)
 <223> n = A,T,C or G

<400> 166

acatcttagt	agtgtggcac	atcaggaggc	catcaggggc	acagtcactc	atagcctcgc	60
cgaggctcga	gtccacacca	ccggtgtagg	tgtgtctaat	cctgggcttg	gcgccacact	120
ttggagaagg	gatatgctgc	acacacatgt	ccacaaagcc	tgtgactcgc	ccaaagattt	180
tttcagacc	aggctgagca	aggggcggat	gltcagcttc	aglcctctct	tcgtcagggtg	240
gatgccaaac	tcgtctangg	tcggtgggaa	gctggctgac	acntcacota	caacctgggc	300
gangatotta	taaagaggct	cmagataaa	ctccacqaaa	cttctctagg	agctgctagt	360

ngggggccttt ttggtgaact ttc

383

<210> 167
 <211> 247
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...[247]
 <223> n = A,T,C or G

<400> 167
 acagagccag accttggcca taaatgaanc agagattaag actaaacccc aagtcganat 60
 tggagcagaa actggagcaa gaagtgggccc tggggctgaa gtagagacca aggccactgc 120
 tatancata cacagagcca actctcaggc caaggcnatg gttggggcag anccagagac 180
 tcaactgan tcaaaaatgg tggctggaac actggtcatg acanaggcag tgactctgac 240
 tgaagtc 247

<210> 168
 <211> 273
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(273)
 <223> n = A,T,C or G

<400> 168
 acttctaagt ttctagaag tgggaggatt gtantcatcc tgaaaatggg tttacttcaa 60
 aatccctcan ccttggttctt cactactgct tatactgana gtgtcatgtt tccacaaagg 120
 gctgacacct gagcctgnat ttccactcat ccttgagaag cctttccag taggggtggc 180
 aattcccaac ttacttgcca caagcttccc aggtttctc ccttgaaaa ctccagcttg 240
 agtcccatgt acactcatgg gctgacctgg gca 273

<210> 169
 <211> 431
 <212> DNA
 <213> Homo sapien
 <220>
 <221> misc_feature
 <222> (1)...(431)
 <223> n = A,T,C or G

<400> 169
 acagccttgg ctccccca ctcacagtc tcaagtgcaga aagatcatct tccagcagtc 60
 agctcagacc aggttcasag gatgtgacal caacagtttc tggtttcaga acaggttcta 120
 ctactgtcaa atgaccccc atacttccic aaaggtgtg gtaagtcttg cacaggtgag 180
 ggcagcagaa agggggtant tactgatgga ccccatcttc totgtatact ccacactgac 240
 cttgccatgg gcaasaggccc ctaccacaaa acaaatagga tcaatgctgg gcaccagctc 300
 acccacatca ctgacaaacc ggatggaaaa agaatgcca acttcatac atccaaactg 360
 aaagtgtct gatactggat tcttaattac ctccaaaago ttctgggggc catcagctgc 420
 tgaacactg a 431

<210> 170
 <211> 266
 <212> DNA
 <213> Homo sapien
 <220>

<221> misc_feature
 <222> (1)...(266)
 <223> n = A,T,C or G

<400> 170
 acctgttgggc tgggclgtta tgectgtgcc ggctgctgaa agggagttca gaggtggagc 60
 tcaaggagct ctgcaggcat ttgccaanc ctctccanag canagggagc aacctacact 120
 ccccgctaga sagacaccag attggagtcg tgggaggggg agttgggggtg ggcatttgat 180
 gtatacttgt cacttgatg aangagccag agaggaanga gacgaanatg anattggcct 240
 tcaaaagctag gggctctggca ggtgga 266

<210> 171
 <211> 1248
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(1248)
 <223> n = A,T,C or G

<400> 171
 ggcagccaaa tcataaacgg cgaggactgc agcccgcact cgcagccctg gcaggcggca 60
 ctggtcatgg aaaacgaatt gttctgctcg ggcglcctgg tgcacccgca gtgggtgctg 120
 tcagccgcac actgtttcca gaagttagtg cagagctcct acaccatcgg gctgggacctg 180
 cacagtcttg aggcagacca agagccaggg agccagatgg tggaggccag cctctccgta 240
 cggcaccacg agtaccacag acccttgctc gctaaccgac tcatgctcat caagttggac 300
 gaatccgtgk ccgagctctga caccatccgg agcatcagca ttgcttcgca gtgcccatac 360
 gcggggaaact cttgcctcgt ttctggctgg ggtctgctgg cgaacggcag aatgocatac 420
 gtgctgcagt gcgtgaacgt gtoggtgggtg tctgaggagg tctgcagtaa gctctatgac 480
 ccgctgtacc accccagcat gttctgcgcc ggccggaggc aagaccagaa ggactcctgc 540
 aacggtgact ctggggggcc cctgatctgc aacgggtact tgcagggcct tgtgtcttcc 600
 ggaaaagccc cgtgtggcca agttggcgtg ccaggtgtct acacnacct ctgcaaatlc 660
 actgagtggg tagagaaaac cgtccaggcc agttaactct ggggactggg aacctatgaa 720
 attgaccccc anatacatcc tgcgggaaggg attcaggaat atctgttccc agccctcccl 780
 cctccaggcc caggagtcca ggcgccagc cctcctccc tcaccccaag ggtacagatc 840
 cccagccact cctccctcag aaccagggt ccagacccc cagcncctcc tccctcagac 900
 ccaggagtcc agccctcct cctccagacc caggagtcca gaccccccag cccctcctcc 960
 ctccagaccca gggglccagg ccccccaccc ctctccctc agactcagag gtccaagccc 1020
 ccaacccntc attcccccag cccagagggt cagggtccag cccctcntcc ctccagaccca 1080
 ggggtccaat gccacctaga ctntccctgt acacagtgcc ccttgttgge acgttgaccc 1140
 aaccllaccg gttggttttt catTTTTngt ccttttcccc tagatccaga aataaagttt 1200
 aagcgaagng caaaaaaaa aaaaaaanaa aaaaaaanaa aaaaaaaa 1248

<210> 172
 <211> 159
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(159)
 <223> Xaa = Any Amino Acid

<400> 172
 Met Val Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro
 1 5 10 15
 Leu Leu Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser
 20 25 30
 Glu Ser Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr
 35 40 45
 Ala Gly Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly

50											55											60					
Arg	Met	Pro	Thr	Val	Leu	Gln	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu												
65											70											75					
Glu	Val	Cys	Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe												
											85											90					
Cys	Ala	Gly	Gly	Gly	Gln	Xaa	Gln	Xaa	Asp	Ser	Cys	Asn	Gly	Asp	Ser												
											100											105					
Gly	Gly	Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe												
											115											120					
Gly	Lys	Ala	Pro	Cys	Gly	Gln	Val	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn												
											130											135					
Leu	Cys	Lys	Phe	Thr	Glu	Tyr	Ile	Glu	Lys	Thr	Val	Gln	Ala	Ser													
145											150											155					

<210> 173

<211> 1265

<212> DNA

<213> Homo sapien

<220>

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<221> misc_feature
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<222> (1) . . {1265}

<223> n = A, T, C or G

<400> 173

ggagcccg	actgcagcc	ctggcggcg	gcactgggtca	tggaaaacga	attgttctgc	60
tggggcgctc	tggtgcactc	gcagtgggtg	ctgtcggccg	cacactgttt	ccagaactcc	120
tacaccatcg	ggctgggcct	gcacagtctt	gagggcagcc	aagagccagg	gagccagatg	180
gtggaggcca	gcctctcogt	acggcaacca	gagtaacaac	gaccttgcct	cgtacaacac	240
ctcatgtcca	tcaagttgga	cgaatccgtg	tccagagtctg	acaccatccg	gagcatcagc	300
attgtttcgc	agtcgcctag	cggcgggaac	tottgcctcg	ttttctggctg	gggtctgtcg	360
gcgaacgggtg	agctccacgg	tgtgtgtctg	ccctcttcaa	ggaggctctc	tgccagtgcg	420
cgggggtgta	ccvtagagctc	tggttccag	gcagaatgcc	taccgtgctg	cagtgcggtga	480
acgtgtcggt	ggltgtctgag	gaggtctgca	gtaagctcta	tgcctcgctg	taccaccca	540
gcatgtttctg	cggcggcgga	gggcaagacc	agaaggactc	ctgcaacggg	gactctgggg	600
ggccctcaal	ctgcaacggg	tacttgcagg	gecttctgtc	cttgcgaaaa	gcccctgtgtg	660
gccaagttag	cgtgcagggt	gtcLacanna	acctctgcaa	atcactgag	lqgatagaga	720
aaaccgtcca	ggccagttaa	ctctggggac	tgggaaccca	tgaattlacc	ccccaactac	780
atcctgcgga	aggaattcag	gaatatctgt	tcccagcccc	tctccctcca	ggccnaggag	840
tccaggcccc	cagccctctc	tccctcaaac	caagggtaca	gatccccagc	ccctctctcc	900
tcagaccrag	gagtcagag	ccccagcccc	ctcctccctc	agacccagga	gtccagcccc	960
tctctcctca	gaccagggag	tcagaccccc	ccagccctcc	ctcctctaga	cccagggggtt	1020
gaggccccca	acccctctct	cttcagagtc	agaggtccaa	gcccccaacc	cctcgttccc	1080
cagaccacga	ggtnnaggtc	ccagccctct	ttcctcaga	ccagnggctc	caatgccacc	1140
tagattttcc	ctgnacacag	tgcccccctg	tggnangttg	acccaacctt	accagttggt	1200
ttttattttt	tngtcccttt	cccttagatc	cagaaataaa	gtttaagaga	ngngcaaaaa	1260
aaaaa						1265

<210> 174

<211> 1.459

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1) . . (1459)

<223> D - A, T, C or G

<400> 174

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gttcagccgc acactgtttc cagaagtgcg tgcagagctc ctacaccatc gggctgggcr 60
tgcacagtct tgaaggccgac caagagccag ggagccagat ggtggaggcc agcctctccg 120
tacggccacc agagtacaac agacccttgc tcgctaacga cctcatgtct atcaagttgg 180

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acgaatccgt	gtccgagtct	gacaccatcc	ggagcatcag	cattgcttcg	cagtgcctta	240
ccgcggggaa	ctcttgcttc	gtttctggt	gggglctgct	ggcgaacgg	gagctcacgg	300
gtgctgtct	gcccctctca	aggaggtcct	ctgcccagtc	gcgggggctg	acccagagct	360
ctgcgtccca	ggcagaatgc	ctcccgctgt	gcagtgcttg	aacgtgtctg	tggtgtclga	420
ngaggtctgc	antaaagctcl	atgacccgct	gtaccaacccc	ancatgttcl	gcgcgcggcg	480
agggcaagac	cagaaggact	cctgcaacgl	ggagagaggg	aaaggggag	gcaggcgaact	540
cagggaagg	tggagagg	ggagacagag	acacacaggg	ccgcctggcg	agatgcagag	600
atggagagac	acacagggag	acagtgacaa	ctagagagag	aaactgagag	aaacagagaa	660
ataaacacag	gaataagag	aagcaaggga	agagagaaac	agaaacagac	atggggaggc	720
agaaacacac	acacatagaa	atgcagttga	ccttccaaaca	gcctggggcc	tgaggcggt	780
gacctccacc	caatagaaaa	tectcttata	acttttgact	ccccaaaaac	ctgactagaa	840
atagcctact	gttgacgggg	agccttacca	ataacataaa	tagtcgattt	atgcatacgt	900
tttatgtcatt	catgatatac	ctttgttga	attttttgat	atttctaagc	tacacagttc	960
gtctgtgaat	tttcttaaat	tggtgcaact	ctcctaaaaat	ttttctgatg	tgtttattga	1020
aaaaatccaa	gtataagtgg	acttgtgcat	tcaaaccagg	gttgttcaag	ggtcaactgt	1080
gtaccacagag	ggaaacagtg	acacagattc	atagaggtga	aaacagagga	gaaacaggaa	1140
aaatcaagac	tctacaaaga	ggtcgggcag	ggtggctcat	gcctgtaatc	ccagcacttt	1200
gggaggogag	gcaggcagat	cacttgaggt	aaggagttca	agaccagcct	ggccaaaatg	1260
gtgaaatcct	gtctgtacta	aaaatacaaa	agttagctgg	atatggtggc	aggogcctgt	1320
aatcccagct	acttgggag	ctgaggcagg	agaaattgctt	gaatatggga	ggcagaggtt	1380
gaagtgaatt	gagatcacac	cactatactc	cagctggggc	aacagagtaa	gactctgtct	1440
caaaaaaaaa	aaaaaaaaa					1459

<210> 175
 <211> 1167
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(1167)
 <223> n - A, T, C or G

<400> 175						
ggcagccct	ggcaggcggc	actggctcatg	gaaaaagaaat	tggtctgtct	ggcgctcctg	60
gtgcacccgc	agtggtgtgt	gtcagccgca	cactgtttcc	agaactccta	caccatcggg	120
ctgggcctgc	acagctcttga	ggccgaccac	gagccagggg	gccagatggt	ggaggccagc	180
ctctccgtac	ggcaccacaga	gtacaaacaga	ctcttgcctg	ctaacgacct	catgctcctc	240
aagtlgagc	aatccgtgtc	cgagctctgac	accatccggg	gcctcagcat	tgcttcgcag	300
hccctaccc	cgaggaactc	ctgcccctgt	tctggtctgg	gtctgctagg	gaacggcagg	360
atgctatcgg	tgctgcctcg	cgtgaacgtg	tcggtggtgt	ctgaggaggt	ctgcagtaag	420
ctctatgacc	cgtgtatcca	ccccagcatg	ttctgcgcgc	gcggaggggc	agaccagag	480
gactcctgca	acggtgactc	tgggggggccc	ctgatctgca	acgggtactt	gcagggcctt	540
gtgtctttcg	gaaaagcccc	gtgtggccaa	cttggcgtgc	caggtgtcta	caccacacct	600
tgcaaatcca	ctgagtggtat	agagaaaaac	gtccagncce	gttaactctg	gggactggga	660
acccatgaaa	ttgaccccca	aatacatcct	gcggaangaa	ttcagggaata	tctgttccca	720
gcccctcctc	cctcagggcc	aggagtccag	gccccagccc	cctcctccct	caaaccaagg	780
gtacagatcc	ccagccctcc	ctccctcaga	cccaggagtc	cagacccccc	agccctcct	840
ccntcagacc	caggagtcca	gcccctcctc	cntcagagcc	aggagtccag	accccccagc	900
ccntctcccg	tcagacccag	gggtgcaggc	ccccaacccc	tctcctcctc	gagtcagagg	960
tccaaagccc	caacccctcg	ttcccagagc	ccagaggtnc	aggtcccagc	cctcctcctc	1020
tcagacccag	cggtccaatg	ccacctagan	ttccctgtga	cacagtgcct	ccttgtggca	1080
ngttgaccca	accttaccag	ttggtttttc	attttttgtc	ccttccctcc	agatccagaa	1140
ataaagtnta	agagaagcgc	aaanaaa				1167

<210> 176
 <211> 205
 <212> PRT
 <213> Homo sapien

<220>
 <221> VARIANT

<222> (1)...(205)

<223> Xaa = Any Amino Acid

<400> 176

Met	Glu	Asn	Glu	Leu	Phe	Cys	Ser	Gly	Val	Leu	Val	His	Pro	Gln	Trp
1				5					10					15	
Val	Leu	Ser	Ala	Ala	His	Cys	Phe	Gln	Asn	Ser	Tyr	Thr	Ile	Gly	Leu
			20					25					30		
Gly	Leu	His	Ser	Leu	Glu	Ala	Asp	Gln	Glu	Pro	Gly	Ser	Gln	Met	Val
		35					40					45			
Glu	Ala	Ser	Leu	Ser	Val	Arg	His	Pro	Glu	Tyr	Asn	Arg	Leu	Leu	Leu
	50					55					60				
Ala	Asn	Asp	Leu	Met	Leu	Ile	Lys	Leu	Asp	Glu	Ser	Val	Ser	Glu	Ser
65					70					75				80	
Asp	Thr	Ile	Arg	Ser	Ile	Ser	Ile	Ala	Ser	Gln	Cys	Pro	Thr	Ala	Gly
			85					90						95	
Asn	Ser	Cys	Leu	Val	Ser	Gly	Trp	Gly	Leu	Leu	Ala	Asn	Gly	Arg	Met
			100					105					110		
Pro	Thr	Val	Leu	His	Cys	Val	Asn	Val	Ser	Val	Val	Ser	Glu	Xaa	Val
			115				120						125		
Cys	Ser	Lys	Leu	Tyr	Asp	Pro	Leu	Tyr	His	Pro	Ser	Met	Phe	Cys	Ala
	130					135						140			
Gly	Gly	Gly	Gln	Asp	Gln	Lys	Asp	Ser	Cys	Asn	Gly	Asp	Ser	Gly	Gly
145					150					155					160
Pro	Leu	Ile	Cys	Asn	Gly	Tyr	Leu	Gln	Gly	Leu	Val	Ser	Phe	Gly	Lys
			165					170						175	
Ala	Pro	Cys	Gly	Gln	Leu	Gly	Val	Pro	Gly	Val	Tyr	Thr	Asn	Leu	Cys
			180					185					190		
Lys	Phe	Thr	Glu	Trp	Ile	Glu	Lys	Thr	Val	Gln	Xaa	Ser			
	195						200					205			

<210> 177

<211> 1119

<212> DNA

<213> Homo sapien

<400> 177

gagcactcgc	agccctggca	ggcggcactg	gtcatggaaa	acgaattggt	ctgctcgggc	60
gtcctggtgc	atccgcagtg	ggtgctgtca	gcccacacac	gtttccagaa	clcctacacc	120
atcgggctgg	gcctgcacag	tcttgaggcc	gaccaagagc	cagggagcca	gatggtggag	180
gccagcctct	cgtacggca	cccagagtac	aacagacct	tgtcctctaa	cagctctatg	240
ctcatcagtg	tggacgaatc	cgtgtccgag	tctgaaccca	cccggagcat	cagcattgct	300
tgcagtgcc	ctaccgcggg	gaactcttgc	ctcgtttctg	gctggggtct	gctggcgaac	360
gatgctgtga	ttgccatcca	gtcccagact	glgggagcct	gggagtgtga	gaagctttcc	420
caacccctgg	agggttgtac	catttcggca	acttccagtg	caaaggacgtc	ctgctgcate	480
ctcacagggt	gtcctcact	gtcactgca	tcacccggaa	caactgtgatc	aactagccag	540
caccatagtt	ctccgaagtc	agactatcat	gattactgtg	ttgactgtgc	tgtctattgt	600
actaacccatg	cagatgttta	ggtgaattta	gcgtcaactg	gctcaacca	tcttggtatc	660
cagttatcct	cactgaattg	agatttctctg	cttcagtgctc	agccattccc	acataatttc	720
tgaactacag	agggtgaggga	tcatatagct	cttcaaggat	gctggtaactc	ccctcacaaa	780
ttcattttctc	ctgtttgtagt	gaaaggtgct	ccctctggag	cctcccaggg	tgggtgtgca	840
ggtcacaatg	atgaatgtat	gatcgtgttc	ccattaccca	aagcctttta	atccctcatg	900
ctcagtcac	cagggcaggt	ctagcatttc	ttcatttagt	gtatgctgtc	cattcatgca	960
accacctcag	gactcctgga	ttctctgcct	agttgagctc	ctgcatgtgt	cctccttggg	1020
gaggtgaggg	agagggccca	tggttcaatg	ggatctgtgc	agttgtaaca	cattaggtgc	1080
taataaaca	gaagctgtga	tgttaaaaa	aaaaaa			1119

<210> 178

<211> 164

<212> PRT

<213> Homo sapien

<220>
 <221> VARIANT
 <222> (1)...(164)
 <223> Xaa - Any Amino Acid

<400> 178
 Met Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp
 1 5 10 15
 Val Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu
 20 25 30
 Gly Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val
 35 40 45
 Glu Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu
 50 55 60
 Ala Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser
 65 70 75 80
 Asp Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly
 85 90 95
 Asn Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Asp Ala Val
 100 105 110
 Ile Ala Ile Gln Ser Xaa Thr Val Gly Gly Trp Glu Cys Glu Lys Leu
 115 120 125
 Ser Gln Pro Trp Gln Gly Cys Thr Ile Ser Ala Thr Ser Ser Ala Arg
 130 135 140
 Thr Ser Cys Cys Ile Leu Thr Gly Cys Ser Leu Leu Leu Thr Ala Ser
 145 150 155 160
 Pro Gly Thr Leu

<210> 179
 <211> 250
 <212> DNA
 <213> Homo sapien

<400> 179
 ctgagtgcc ttggtgttc aagccctgc aggaagcaga atgcaccttc tgaggcacct 60
 ccagctgcc ccggccggg gatgcgagg tcggagcacc cttgccggc tgtgattgct 120
 gccaggcaat gttcatctca gttttctgt cctttgtct ccggcaagcg cttctgtctg 180
 aagttcatat ctggagcctg atgtcttaac gaataaagg cccatgctcc aaccgaaaa 240
 aaaaaaaaaa 250

<210> 180
 <211> 202
 <212> DNA
 <213> Homo sapien

<400> 180
 actagtcagg ttggttgga ttccattgtg ttgggcccaa cacaatggct accitttaaca 60
 tcacccagac ccggccctg ccagtgccc acgtgctgc taacgacagt atgatgotta 120
 ctctgtact cggaacctat ttttatgtas ttaatgtatg ctttctgttt tataaatgcc 180
 tgatttaaaa aaaaaaaaaa aa 202

<210> 181
 <211> 558
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(558)
 <223> n = A,T,C or G

<400> 181
 tccytttktgk nagggtttkkg agacacmccck agacctwaan ctgtgtcaca gacttcynqg 60
 aatgttttagg cagtgcctagt aatttcytcg taatgattct gttattactt tctnattct 120
 ttattcctct ttcttctgaa gattaatgaa gttagaaaatt gaggtggata aatac00000 180
 ggtagtgtga tagtataagt atctaagtgc agatgaaagt gtgttatata tatccattca 240
 aaattatgca agttagtaat tactcagggg taactaaatt actttaatat gctgttgaaac 300
 ctactctgtt ccttggctag aaaaaattat aaacaggact ttgttagttt gggaaagccaa 360
 attgataata ttctatgttc taaaagttag gctatacata aattattaag aaatatggaw 420
 ttttattccc aggaatatgg kgttcatttt atgaatatta csurggatag awgtwlgagt 480
 aaaaycagtt ttggtwaata ygtwaatat tcmteaataa acaakgcttt gacttatttc 540
 caaaaaaaa aaaaaaaa 550

<210> 182
 <211> 479
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(479)
 <223> n = A,T,C or G

<400> 182
 acagggwttk grggtgcta agaccccrga rwtggtttga tocaaacctg gottwtttcc 60
 agaggggaaa atggggccta gaagttacag macatytagy tgggtgcmty gcacccctgg 120
 cctcacacag aatcccgagt agctgggact acagggcacac agtcaactgaa gcaggccctg 180
 ttwgcaattc acgttgccac ctccaactta aacattcttc atatgtgatg tcttagtca 240
 ctaaggttaa actttccac ccagaaaagg caacttagat aaaaatttag agtaacttca 300
 tactmtcta agtctcttcc cagcctcact kkgagtccm cytgggggtt gataaggaat 360
 ntctcttggc ttctccaata aartctctat ycatctcatg ttttaatttg tacgcataa 420
 awtgatgara aaattaaaat gttctggtty maactttaaa aruaaaaaaa aaaaaaaa 479

<210> 183
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 183
 agggcggggc agaaactasa gccaaagccc aagaagagtg gcagtgcacg cactgggtgac 60
 agl0ccca ta ccaataacag tgccagtgc agtgccagba ccagtggtag ctccagtgc 120
 ggtgccagcc tgaccgccac tctcacattt gggctcttcc ctggccttgg tggagctggt 180
 gccagcacca gtggcagctc tgggtgctgt ggtttctctt acaagtgaga tttagatat 240
 tgttaactct gccagtcttt ctcttcaagc caggggtgcat cctcagaaac ctactcaaca 300
 cagcaactca ggcagccact atcaatcaat tgaagttgac actctgcatt aratctattt 360
 gccatttcaa aaaaaaaa aaaa 384

<210> 184
 <211> 496
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(496)
 <223> n = A,T,C or G

<400> 184
 acugaatttg gacccgtggc ttataagcga tcatgtyynt ccrgtatkae ctcaacgagc 60
 agggagatcg agtclatacg ctgaagaaat ttgacccgat gggacaacag aactgctcag 120
 cccatcttgc tgggttctcc ccagatgaca aatactctag acaccgaate accatcaaga 180
 aacgcttcaa ggtgctcatg acccagcaac cggccctgt cctctgaggg tcccttaaac 240
 tgalgtcttt tctgccacct gttacccctc ggagactcag taaccaaact cttaggactg 300

tgagccctga	tgcctttttg	ccagccatag	tccttggcat	ccagtctctc	gtggcgattg	360
attatgcttg	tgtgagggaa	tcctgggtgg	ctcccccata	aaagggaacac	atttgaacttt	420
ttttctcat	atttttaatt	actacmagaw	tcttwwmagaw	waatgawtt	gaaaaactst	480
taaaaaaaaa	aaaaaa					496

<210> 185
 <211> 384
 <212> DNA
 <213> Homo sapien

<400> 185						
gctggtagcc	tatggcgkgg	cccacggagg	ggctectgag	gccacggrac	agtgaacttcc	60
caagtatcyt	gcgcgcgctc	ttctaccgtc	cctacctgca	gatcttcggg	cagattcccc	120
aggaggscat	ggacgtggcc	ctcatggagc	acagcaactg	ytcttcggag	cccggtttct	180
gggcacaccc	tcctggggcc	caggcgggca	cctgcgtctc	ccagtatgcc	aactggctgg	240
tgggtgctgt	cctcgtcatc	ttcctgctcg	tggccaacat	cctgctggtc	aacttgcaca	300
ttgccatgtt	cagttacaca	ttcggcaaag	tacagggcaa	cagcgatctc	tactgggaag	360
gcgcagcgtt	accgcctcat	ccgg				384

<210> 186
 <211> 577
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(577)
 <223> n - A,T,C or G

<400> 186						
gagttagctc	ctccacaacc	ttgatgaggt	ogtctgcagt	ggcctctcgc	ttcataccgc	60
tnccatcttc	atactgtagg	tttgcaccca	cytoctggca	tcttggggcg	gcntaatatt	120
ccaggaaact	ctcaatcaag	tcaccgtcga	tgaacccgtg	gggctgggtc	tgtcttcgcg	180
tcgggtgtgaa	aggatctccc	agaaggagtg	ctcgatcttc	cccacacttt	tgatgacttt	240
attgagtgca	ttctgcatgt	ccagcaggag	gttgtaccag	ctctctgaca	gtgaggtcac	300
cagccctatc	atgcgcttga	mcgtgcggaa	garacccgag	ccttgtgtgg	gggkkaagt	360
ctcaccacaga	ttctgcatta	ccagagagcc	gtggcacaag	acattgacaa	aotcggccag	420
gtggaaaaag	amucmctcc	ggargtqctn	gcggtctctc	gtcmgttggt	ggcagcgctw	480
tccttttgac	acacaaacaa	gttaaaagga	cttccagccc	ccagaaantt	gtcatcatcc	540
aaagtntcgc	acagcaactna	tcagllqgg	attcaat			577

<210> 187
 <211> 534
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(534)
 <223> n = A,T,C or G

<400> 187						
aacatcttcc	tgtataatgc	tgtgtaatat	cgatccgatn	ttgtctgstg	agaatycatw	60
actkggaaaa	gmaacattaa	agcctggaca	ctggtattaa	aattccacaat	atgcaacact	120
ttapacagtg	tgtaaatctg	ctcccyynac	tttgtcatca	ccagtctggg	aakaagggtc	180
tgccttatte	acacctgtta	aaagggcgct	aagcattttt	gattcaacat	cttttttttt	240
gacacaagtc	cgaaaaaagg	aaaagtaaaa	agllatyaat	ttgttagcna	attcaacttcc	300
ttcatgggac	ag gccatyt	gatttcaaaa	gcnaatttgc	laatattgag	cttyggggagc	360
tgatalttga	gcggaaagag	agccttttct	cttccaccag	cccaaccccc	tttcatattg	420
ggatgttnac	naaagtwtatg	tccttwacag	atgggagcgt	tttgaggcaa	ttctattctg	480
aggelecccc	agtttattta	ccacttgcac	aagaaggcgt	tttcttctct	aggg	534

<210> 188
 <211> 761
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{761}
 <223> n = A,T,C or G

<400> 188
 agaaaccagt atctctnaaa acaacctctc atacctgtg gacctaatit tgtgtgcgtg 60
 tgtgtgtgcg cgcataattat atagacaggg acatcttttt tacttttgta aaagcttatg 120
 cctctttggg atctatatct gtgaaagttt taatgatctg ccataatgtc ttggggacct 180
 ttgtcttctg tgtaaatggg actagagaaa acacctatnt tatgagtcas tctagttngt 240
 ttatttcgac atgaaggaaa ttccagatn ccacacclna caaacctctc clkgackarg 300
 ggggacaaag aaaaagcaaaa ctgacatata caaaccttwa cctgggtgag arttgcataa 360
 acagaaatwr ggtagtatat tgaarnacag cctcatttaa rmgtttwkttt wtctccctt 420
 gcaaaaaaca tgaacgaat tcccggttgc laatgccaag ttgttttttt tatnataaaa 480
 cttgcctctc attacatgtt tnaaagtggg gtgggtgggg aaatatattga aatgatggaa 540
 ctgactgata aagctgtaca aalaagcagt gtgcctaaca agcaacscag taatgttgac 600
 atgcttaatt ccaaatgtgt aatttcatta taaatgtttg ctaaaataca ctttgaacta 660
 tttttctgtt tcccaagagc tgagatntta gattttatgt agtatnaagt gaaaaantac 720
 gaaaal.aafa acattgaaga aaasnanaaa aaanaaaaaa a 761

<210> 189
 <211> 482
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{482}
 <223> n = A,T,C or G

<400> 189
 tttttttttt ttgtccgatn ctactatttt attgcaggan gtgggggtgt atgcacogca 60
 caccggggct atnagaagca agaaggaagg agggagggca cagcccttg ctgagcaaca 120
 aagccgcctg ctgccttctc tgtctgtctc ctgggtgcagg cacatgggga gaccttcccc 180
 aaggcagggg ccaccagtcg aggggtggga atacaggggg tgggagtggt gcataagaag 240
 tgataggcac agcccaaccg gtacagaccc ctgggtcctt gacaggtnga ttccgaccag 300
 gtcattgtgc cctgcccagg cacagcgtan atctggaaaa gacagaatgc ttctcttttc 360
 aaattttggt ngtcatngaa ngggcanntt tccaanntng gctnggtctt ggtacncttg 420
 gttcggccca gctccnctc caaaaantat tcccccnctt ccnaattgct tgcnggnucc 480
 cc 482

<210> 190
 <211> 471
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> {1}...{471}
 <223> n = A,T,C or G

<400> 190
 tttttttttt ttttaaaaca gtttttcaca aaaaaattta ttagaagaat agtggttttg 60
 aaaactctcg catccagtga gaactaccat acaccacatt acagctngga atgtncctca 120
 aatgtctggt caaatgatac aatggaacca ttcaatctta cacatgcacg aaagaacaag 180
 cgtttttgac atacaatgca caaaaaaaa aggggggggg gaccacatgg attaaaattt 240
 taagtactca tcacatacat taagacacag ttotagtucc gtcnaaaato agaactgnt 300

tgaaaatttt	catgtatgca	atccaaacca	agaacttnat	tggatgatcat	gantnctcta	360
ctacatenac	cttgtatcatt	gccagggaacn	aaaagtttaa	ancacnchgt	acaaaaanaa	420
tctgtaattn	anttcaacct	ccgtacngaa	aatnttntnt	tatacactcc	c	471

<210> 191
 <211> 402
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{402}
 <223> n = A,T,C or G

<400> 191	
gagggattga	aggtctgttc
gtcttccact	cactgtctgt
attcttccac	agtcacatct
cttcctttgt	taagacttca
ctcgttctct	aacaatgtcc
ctttgtgcat	ccattttaaa
aagagtcata	tgctctgcaa
aggttcagcc	ctgttcagcc
acccagacwg	tatcttcaaa
agttagtata	agttcttcca
lqlagaaagg	aatyyaattg
gtatttggct	gaacaaccca
lncactaggt	taatttctgc
gtatctctgc	ca
	60
	120
	180
	240
	300
	360
	402

<210> 192
 <211> 601
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{601}
 <223> n = A,T,C or G

<400> 192	
gagctcggat	ccaataatct
ggtctacccc	acatggggagc
atgcytyttt	gaytaccgtg
cttttctgga	aaaactggca
acgagacact	tgaaaaggtgt
caqttgtcaa	tactaaacccg
tacatctcct	gacgttactg
tgltggalea	ggttcccat
aaacattgca	gatttgaggg
antcagatga	gccggccracc
	g
gcagcaca	lalncaagtgc
agntatataa	ggtcattccc
kggtgaltct	yaacacacyt
actagcarga	catcacttac
gtctttgtgc	ccatcccggt
gctttttgtc	ccatccggcac
tccatcacat	ttgtgatctg
tcttttgttt	caaaagcacc
aatgttcaca	tggcatattt
caaatcctgt	tcgggcattg
gcgcctgtgag	ccccaccagc
	agcagaayca
	60
	120
	180
	240
	300
	360
	420
	480
	540
	600
	601

<210> 193
 <211> 608
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{608}
 <223> n = A,T,C or G

<400> 193	
atacagccca	nattccacca
ggctccgctg	tagcccagc
cccacgcacg	gcagmagcgg
tkaagtgcag	gaagaggctg
ctgcagcgaa	actctctgat
cgaagatgcg	cttggttgact
gactctccar	ctgctggaag
gscgggtcaa	tgaactccay
gggtccaccag	gatgcccgac
gggaagcgaa	tgaggcccag
	ggccttgccc
	60
	120
	180
	240
	300

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agaaccttcc gectgttctc tggcgtcacc tgcagctgct gccgctgaca ctgggectcg      360
gaccagcgga caaacggcrt tgaacagccg caactcacgg atgcccagtg tgcggcgctc      420
caggammgsc accagcgtgt ccaggtcaat gtgggtgaaq cccctccgcg gtretggcgt      480
ctgcagtggt tttgtcgatg ttctccaggc acaggtctgc cagctgcggc tcatcgaaga      540
gtcgcgcctg cgtgagcage atgaaggcgt tglcggctcg cagttcttct tcagggaactc      600
cagccaat                                     608

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<210> 194
<211> 392
<212> DNA
<213> Homo sapien

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<220>
<221> misc_feature
<222> (1)...(392)
<223> n - A,T,C or G

```

```

<400> 194
gaacggctgg accttgcctc gcattgtgct tgcctggcagg gaataccttg gcaagcagyt      60
ccagtcaggag cagcccraga ccgctgcgcg ccgaagctaa gcctgcctct ggccctcccc      120
tccgctcaca tgcagaacca gtatggggag cactgtgttt agagttaaga gtgaacactg      180
tttgatttta cttgggaatt tcctctgtta tatagctttt cccaatgcta atttccauac      240
aacaacaaca aaataacatg tttgcctgtt aagttgtata aaagtagggt attctgtatt      300
taaagaaat attactgtta catatactgc ttgcaatttc tgtatttttt gktncsttgg      360
aaataaatat agttatfaaa ggtgtcant cc                                     392

```

```

<210> 195
<211> 502
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(502)
<223> n - A,T,C or G

```

```

<400> 195
ccattkgagg ggtkaggkyc cagttycga gtggaagaa caggccagga gaaqtgcctg      60
ccagagctgag gcagatgttc ccacagtga cccagagccc slggggtata gtytctgccc      120
ccctncaagg aaagaccacs ttctggggac atgggtctga gggcaggacc tagaggcacc      180
aagggaaggg ccattccgg ggstgttcc cggggaggaa ggggaagggc tctgtgtgcc      240
cccaagagg cagaggccct ggtcctggg atcagacacc ccttcacgtg tatccccaca      300
caaatgcaag ctacccaagg tccccctctc gtcccccttc atacaccctg amcggccact      360
gacscacacc caccagagc acgcccaccc ccatggggar tgtgtccaag gartcgmgg      420
gcarcgtgga catctngtcc cagaaagggg cagaatctcc aatagangga ctgarcmtt      480
gctnnanana aaaaaaaaaa aa                                     502

```

```

<210> 196
<211> 665
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(665)
<223> n - A,T,C or G

```

```

<400> 196
ggtaacttgg ttctattgcc accacttagt ggtgtcaLL tagaaccatt Ltgtctgtct      60
cctctggaag ccttgccgag agcggacttt gtaactgttg gagaataact gctgaatttt      120
wagctgtttk gatttgatts gcaccactgc acccacaact tcaatatgaa aacyawttga      180
actwatttat tatcttgtga aaytataac aatgaaaatt ttgttcatac tgtattkate      240

```



```

aagtatgatg aaaagcaawa gatatatatt cttttattat gttaaattat gattgocatt      300
attaatoggo aaaatgtgga gtgtatgttc ttttcacagt aatatatgco ttttgtaact      360
tcacttgggt attttattgt aaatgarita caaaattctt aatttaagar aatggatagt      420
watatttatt tcattaattt ctttcotkgt ttaogtwaat tttgaaaaga wtgcagtatt      480
tcttgacaga aatcgatctt gatgctgtgg aagtatgttg acccaccatc ctatgagttt      540
ttcttagaat gtataaagggt tgtageccat cnaacttcaa agaaaaaat gaccacatac      600
tttgcaatca ggctgaaatg tggcatgctn ttctaattcc nactttataa actagcaaan      660
aagtg

```

```

<210> 197
<211> 492
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(492)
<223> n = A,T,C or G

```

```

<400> 197
tttnttttlt ttttttttgc aggaaggatt ccattttattg tggatgcatt ttcacaatat      60
atgtttattg gagegatcca ttatcagtgga aaagtatcaa gtgtttataa natttttagg      120
aaggcagatt cacagaacat gctngtcngc ttgcagtttt acctcgtaaa gatnacagag      180
aattatagtc naaccagtaa acnagggaatt tacttttcaa aagattaaat ccaaactgaa      240
caaaattcta ccoctgaaact tactccatcc aaatattgga ataanagtca gcagtgatcc      300
attctcttct gaactttaga ttttctagaa aaatatgtaa tagtgatcag gaagagctct      360
tgttcaaaag tacaacnaag caatgttccc ttaccatagg cottaattca aactttgatc      420
catttcactc ccatacaggg agtcaatgct acctgggaca ctigtatitt gttoatnctg      480
ancntggctt aa
492

```

```

<210> 198
<211> 478
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(478)
<223> n = A,T,C or G

```

```

<400> 198
tttnttttgn atttcaantct gtannaanta ttttcattat gtttattana aaaaatatnaa      60
tgtntocacn acaaatcatn ttacntnagt aagaggccan ctacattgta caacatacac      120
tgagtatatt ttgaaaagga caagttttaa gtanacncat attgccganc atancacatt      180
tatacatggo ttgattgata tttagcacag canaaactga gtgagttacc agaaanaaal      240
natatatgtc aatcngattt aagatccaaa acagatccta lggtaucatan catentqlag      300
gagttgtggc lltatgttta ctgaaagtca atgcagttcc tgcacaaaga galggccgta      360
agcattctag tacctctact ccattggtta gaatcgtaaa cttatgttta catatgttca      420
gggtcagaat tctglttaagt nsanttatgg agaggtccan gagaaaaatt tgatncaa      478

```

```

<210> 199
<211> 482
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(482)
<223> n = A,T,C or G

```

```

<400> 199
agtgaattgt cctccaaaca aacccttga tcaagtttgt ggcaactgaa atcagacctt      60

```

tgetagttcc	tgtctcttat	tcgtactaa	atgcagactg	gaggggacca	aaaagggcca	120
tcactccag	ctggattatt	ttggagcctg	caaatctatt	cctacttgta	cggaatttga	180
agtattccag	tttctcttac	ggatgagaga	ctggctcaag	aatatcctca	tgcagcttta	240
tgaagccnac	tctgaacacg	ctggttatct	nagatgagaa	ncagagaaat	aaagtcnaga	300
aaatttacct	ggangaaaag	aggttttngg	ctggggacca	tcccattgaa	ccttctctta	360
anggaattta	agaanaaaact	accacatgtn	tgtngtatcc	tggtgccngg	ccgtttantg	420
ascntngacn	ncacccttnt	ggaatanant	cttgacngcn	tcttgaactt	gtcctctctg	480
ga						482

<210> 200

<211> 270

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(270)

<223> n = A, T, C or G

<400> 200

cgcccgcaag	tgcactcca	gtcggggcgg	tccggacgaa	gattctgcca	gcagttgggc	60
cgactgcgac	gacggcgggg	gcgacagtcg	caggctgcagc	gcggggcgct	ggggctcttc	120
agggctgggc	tgacgcggca	gaggctcggt	cagctccccc	gaccttgacg	ccgtcgggga	180
cagccgggac	ggagcccggt	gaagctggga	ggcctcgggg	agcccccctg	gaagggcggg	240
ccgagagata	cgcgggtgca	ggtggccgcc				270

<210> 201

<211> 419

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(419)

<223> n = A, T, C or G

<400> 201

tttttttttt	ttttggaatc	tactgcgagc	acagcaggic	agcaacaaat	ttatttttga	60
gctagcaagg	taacagggtg	gggcatgggt	acatgttcag	gtcaacttcc	tttgccgagg	120
ttgattgggt	tgtctttatg	ggggcggggt	gggttagggg	aaancgaagc	anaantccca	180
tggagtgggt	gcacccctcc	tgtagaacct	ggttacnaaa	gcttggggca	gttcacctgg	240
tctgtgacgg	tcattttctt	gacatcaatg	ttattagaag	tcaggatata	ttttagagag	300
tccactgtnt	ctggaggag	attagggttt	cttgccaana	tccaanccaa	atccactga	360
aaaagttgga	tgatncangt	acngaatacc	ganggcatan	ttctcatant	cggtggcca	419

<210> 202

<211> 509

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(509)

<223> n = A, T, C or G

<400> 202

tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	tttttttttt	60
tggcacttaa	tccattttta	tttcaaaatg	tctacaaant	tttaetnono	cattataong	120
gttatcttnc	aaaatctaaa	onttattcaa	atntragcca	aantctttaa	noaatnnaa	180
tacnncnaaa	aatcaaaaaa	atactntct	ttcagcaaac	ttngttacat	aaattaaaaa	240
aatatatacg	gctgggtgtt	tcaaagtaca	attatcttaa	cactgcaaac	atnttttnaa	300
ggaactaaaa	taaaaaaaa	cactnccgca	aaggttaaag	ggaacaacaa	attcttttta	360

```

caacancnnc nattataaaa atcatatctc aaatcttagg ggaatatata cttcacacng 420
ggatcttaac ttttactnca ctttctttat ttttttanaa ccattgtntt gggcccaaca 480
caatgnaat nccnccnnc tggactagt 509

```

```

<210> 203
<211> 583
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(583)
<223> n = A,T,C or G

```

```

<400> 203
tttttttttt ttttttttga cccccctctt ataaaaaaca agttaccatt ttatttttact 60
tacacatatt ttttttataa ttggtattag atattcaaaa ggcagctttt aaaatcaaac 120
taaaggaas ctgccttaga tacataattc tttaggaatta gcttaaaatc tgcctaaagt 180
gaasatcttc totagctctt ttgactgtaa atctttgaact cttgtaaaac atccaaatcc 240
atttttcttg tctttaaaat tatctaact ttccattttt tccctattcc aagtcatttt 300
gcttctctag cctcatttcc tagctcttat ctactattag taagtggctt ttttcctaaa 360
agggaaaaca ggaagagana atggcacaca aaacaaacat tttatatcca tatttctacc 420
taogttaata aatagcatt ttgtgaagcc agctcaaaag aaggcttaga tctttttatg 480
tccatttttag tcaactaaac atatcnaaag tgcagaatg caaaaaggtt gtgaacatct 540
attcaaaagc taatataaga tatttcacat ctcalettt ctg 583

```

```

<210> 204
<211> 589
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(589)
<223> n = A,T,C or G

```

```

<400> 204
tttttttttt tttttttttt ttttttctc ttcttttttt ttganaatga ggaatcgaatt 60
tttcaactct tagatagggc atgaagaaa clcaltcttc cagcttctaa akaacaaatca 120
aatctcttat gcttatatcat atlttcaaglt aaactaatga gtcactggct tatcttctcc 180
tgaaggaaat ctgttcaatc ttctcattca tatagtlata tcaagtacta ccttgcatac 240
tgaagagllt tlcttctcta tttaacacata tatttccatg tgaatttgta tcaaaccttt 300
atlttcaatgc aaactagaaa ataagtntt cttttgcata agagaagaga acaatatnag 360
catttcaaaa ctgctcaaat tgtttgttaa gnttatccat tataattagt tnggcaggag 420
ctaatacaaa tcacattttac ngacnagcaa taataaaact gaagtaccag ttaaatatcc 480
aaaataatta aaggaacatt tttagcctgg gtataattag ctaattcact ttacaagcat 540
ttattnagaa tgaattcaca tgttattatt cctagacca acacaatgg 589

```

```

<210> 205
<211> 545
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(545)
<223> n = A,T,C or G

```

```

<400> 205
tttttttttt ttttttcaat aataatcaaa acaatatcta tttttatatt taaaatllcat 60
agaaaagtgc ctacatttca ataaaagttt gttcttcaaa gtgatcagag gaattageta 120
tngtcttcaa ccccaatatt aatttgagga aatatacca aatatatta agtaaatat 180

```

taaagatcat agagcttcta agtgaaaaga taaaatttga cctcagaaa cctgagcatt	240
aaaaatccac tattagcaaa taaattacta tggacttctt gcttttattt tctgatgaat	300
atgggggtgtc actgggtaaa caacacattc tgaaggctac attacttagt gatagattct	360
tatgtacttt gctanatac gtggatatga gttgacaagt ttctctttct tcastctttt	420
aagggggcnga ngaaatgagg aagaaaaaga aaggcttagc catactgttc ttctatnng	480
aaggattaga tatgtttctt ttgccaatct taaaaaala ataagtgtta ctactagtga	540
aaccc	545

<210> 206

<211> 487

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(487)

<223> n = A,T,C or G

<400> 206

tttttttttt ttttttagtc aagtttctna tttttattat aattaaagtc ttggctcattt	60
catttatttag ctctgcaact tacatatcta aattaaagaa acgttnttag acaactgtna	120
caatttataa atgtaagggt ccattattga gtanatatat tcttccaaag gctggatgtgt	180
cccttctccc accaactaat gaancagcaa cattagttta attttatttag tagalnatac	240
actgtctgcaa acgctaattc tcttctccat ccccatgtng atattgltga latgtgtgag	300
ttggtnagaa tgcattcanca atctnacaat caacagcaag atgaagctag gcttgggctc	360
tgggtgaaaa tagactgtgt ctgtctgaat caaatgtctt gacctatctt cgggtggcaag	420
aactcttcga accgttctct caaaggcngc tgcacacttt gggcctctn ttgcacttgt	480
ttcaaaa	487

<210> 207

<211> 332

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(332)

<223> n = A,T,C or G

<400> 207

tgaattggct aagagactgc atttttanaa ctagecaactc ttatttcttt cctttaaaaa	60
tacatagcat taatcccaa atctctttta aagacctgac agcttgagaa ggtcactact	120
gcatttatag gacctctctg tgggtctctgt gttacntttg aantctgaca atccttgana	180
atcttctcat gcagaggagg taaaagggtat tggattttca cagagggaana acacagcgca	240
gaaatgaagg ggccaggctt actgagcttg tccactggag ggctcatggg tgggacatgg	300
aaaagaaggc agcctaggcc ctggggagcc ca	332

<210> 208

<211> 524

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(524)

<223> n = A,T,C or G

<400> 208

agggcgtggt ggggaggagg ttactqltll gtctnagtaa caataaatat aaaaagactg	60
gttgtgttcc gggcccatcc aaccacgaag ttgatttctc ttgtgtgcag agtgactgat	120
tttaaggagc atggagcttg tcacaatgtc acaatgtcac agtgtgaagg gcacactcac	180
tccgcqlga ttacacttta gcaaccaaca atagctcatg agtccatact tgtaaatact	240

tttggcagaa	tacttnttga	aacttgacaga	tgataactaa	gatccaagat	atttcccaaa	300
gtaaatagaa	gtgggtcata	atattaatta	oetgttcaca	tcagcttcca	tttacaagtc	360
atgagcccag	acactgacat	caaaactaago	ccacttagac	tcctcaccac	cagtctgtcc	420
tgtcatcaga	caggaggtg	tcaccttgac	caaattotca	ccagtcaatc	atctatccaa	480
aaaccattac	ctgatccact	tccggtaatg	caccacottg	giga		524

<210> 209
 <211> 159
 <212> DNA
 <213> Homo sapien

<400> 209		
gggtgaggaa	atccagagtt gccatggaga aaattccagt gtcagcattc ttgtccttg	60
tggcctctc	ctacactctg gccagagata ccacagtcaa acctggagcc aaaaaggaca	120
caasggactc	tcgacccaaa ctgcccaga ccctctcca	159

<210> 210
 <211> 256
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(256)
 <223> n = A,T,C or G

<400> 210		
actccctggc	agacaaaagg agaggagaga gctctgttag lletgigtg ttgaactgcc	60
actgaatllc	tttccacttg gactattaca tgccanttga gggactaatg gaaaaacgta	120
tggggagall	ttanccaall tangtntgta aatggggaga ctggggcagg cgggagagel	180
ttgcagggtg	naaatgggan ggctgggttg ttanatgaac agggacatag gaggtaggca	240
ccaggatgct	aatca	256

<210> 211
 <211> 264
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(264)
 <223> n = A,T,C or G

<400> 211		
acattgtttt	tttgagataa agcattgaga gagctctcct taacgtgaca caatggagag	60
actggaacac	ataccacat ctttgttctg agggataatt ttctgatana gtcttctgt	120
atattcaagc	acatatgtta tatattattc agttccatgt ttatagocct gttasggaga	180
ggggagatac	attcngaaag aggaactgaa gaaatactca agtnggaaaa cagaaaaaga	240
aaaaaaggag	caaatgagaa gcct	264

<210> 212
 <211> 328
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(328)
 <223> n = A,T,C or G

<400> 212		
acccaasaat	craatgctga atatttggct tcattattcc canattcttt gattgiccaa	60

ggatttaattg	ttgtctcagc	ttgggcactt	cagttaggac	ctaaggatgc	cagccggcag	120
gtttatatat	gcagcaacaa	tattcaagcg	cgacaacagg	ttattgaact	tgcccgccag	180
ttnaatttca	ttcccattga	cttgggatcc	ttatcatcag	ccagagagat	tgaaaattta	240
cccctaenac	tctttactct	ctgganaggg	ccagtgggtg	tagctataag	cttggccaca	300
tttttttttc	ctttattcct	ttgtccga				328

<210> 213
 <211> 250
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 213	
acttatgagc	agagcgacat
atacnaagtgt	agactgaata
aaactgaatt	ctctccagtt
taaagcattg	ctcactgaag
ggatagaagt	gactgccagg
agggaaagta	agccaaggct
cattatgcc	aagganatat
acatttcaat	tctccaaact
tcttctcat	tccaagagtt
ttcaatattt	gcatgaacct
gctgataanc	catgttaana
aacaaatata	tctctnacct
tctcatoggt	

<210> 214
 <211> 444
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(444)
 <223> n = A,T,C or G

<400> 214	
accagaatc	caatgctgaa
tatttggett	cattattccc
agattctttg	attgtcaaag
gatttaattg	tgtctcagct
tgggcacttc	agttaggacc
taaggatgcc	agccggcagg
tttatatatg	cagcaacaat
attcaagcgc	gacaacaggt
tattgaactt	gcccgccagt
tgaatttcat	tcccattgac
ttgggatcc	tatcatcagc
canagagatt	gaaaatttat
ccctaagact	ctttactctc
tygagagggc	cagtgggtgg
agctataagc	ttggccacat
ttttttttcc	tttattccct
tgtcagagat	gcgattcato
catatgctan	aaaccaacag
agtgaacttt	acaaaattcc
tataganatt	gtgaataaaa
ccttacctat	agttgccatt
actttgctct	ccctaatata
cctc	

<210> 215
 <211> 366
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(366)
 <223> n = A,T,C or G

<400> 215	
acttatgagc	agagcgacat
atccaagtgt	anactgaata
aaactgaatt	ctctccagtt
taaagcattg	ctcactgaag
ggatagaagt	gactgccagg
agggaaagta	agccaaggct
cattatgcc	aagganatat
acatttcaat	tctccaaact
tcttctcat	tccaagagtt
ttcaatattt	goatgaacct
gctgataagc	catgttgaga
aacaaatata	tctctgacct
tctcatoggt	aagcagaggg
tgtaggcaac	atggaccata
gogaanaaaa	aacttagtaa
tccaagctgt	tttctacact
gtaaccagggt	ttccaaccaa
ggtggaaata	tctataactt
ggtgcc	

<210> 216
 <211> 260
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(260)
 <223> n = A,T,C or G

<400> 216
 ctgtataaac agaactccac tgcangaggg agggcgggyc caggagaate tccgcttgc 60
 caagacaggg gcttaaggag ggtctccac ctgctnnlea gggctnttnc atttctttat 120
 taataaaaag tnnaaaaggc ctcttclcaa cttttttccc ttnggcaggga aaatctaaaa 180
 atcaaaaatt tectnaagtl ntcaagctat catctctact ntatcctgaa aaagcaacat 240
 aatctctect tccctccttt 260

<210> 217
 <211> 262
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(262)
 <223> n = A,T,C or G

<400> 217
 aactaagtgg gtaagtttan aaatgttata atttcaggaa naggaaacgca tataattgtt 60
 tcttgcctat aattttctat tttaataagg aattogcnaa ttgggggtggg gggaaagtag 120
 ggcattctac agtttgagca aaatgcaatt aaatgtggaa ggacagcact gaasaatttt 180
 atgaataate tgtatgattt tctgtctcta gagtagattt ataattagcc aattacccta 240
 atatctctca tgcttgtaaa gt 262

<210> 218
 <211> 205
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(205)
 <223> n = A,T,C or G

<400> 218
 aaccaagttg tgcattaccg gaantggatc aaggacacca tcttgcccaa cccctgagca 60
 cccclatcaa ctcccctttg taglaaactt ggaaccltgg aaatgaccag gccaaagactc 120
 aggcctccc agttctactg acctttgtcc ttangtntna nglccagggt tcttaggaaa 180
 anaaatcagc agacacaggt gtaaa 205

<210> 219
 <211> 114
 <212> DNA
 <213> Homo sapien

<400> 219
 tactgttttg tctcagtaac aataaatata aaaagactgg ttgtgttccg gccccatcca 60
 accacgaagt tgatttctct tgtgtgcaga gtgactgatt ttaaaggaca tggg 114

<210> 220
 <211> 93
 <212> DNA

<213> Homo sapien

<400> 220

actagccagc acaaaaggca gggtagcctg aattgcttcc tgcctcttac atttcttcta 60
aaataagcat ttagtgctca gtccctactg agt 93

<210> 221

<211> 167

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(167)

<223> n = A,T,C or G

<400> 221

actangtgca ggtgcgcaca aatatttgc gatattccct tcatcttga ttcatgagg 60
tcttttggcc agcctgtggc tctactgtag taagtctctg ctgatgagga gccagnatgc 120
ccccactac ctccctgac gctcccaana aatcaccaa cctctgt 167

<210> 222

<211> 351

<212> DNA

<213> Homo sapien

<400> 222

agggcgtggt gggaggggg gtactgacct cattagtagg agnatgcatt ctggcaccoc 60
gttcttcacc tgtcccccac tocttaaaaq gccatactgc ataaagtcac caccagctaa 120
atgtttgttg aattaaagga tggatgaaaa aaetttaaa tgaalctttg cataatccaa 180
ttttctcttt tatatttcta gaagaagttt ctttgagcct attagatccc ggaatcttt 240
taggtgagca tgattagaga gcttgtaggt tgcctttaca tatactctgc atatttgagt 300
ctcgtatcaa aacaatagat tggtaaaggt ggtattattg tattgataag t 351

<210> 223

<211> 383

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> (1)...(383)

<223> n = A,T,C or G

<400> 223

aaaacaaac aaacaaaaaa acasttcttc attcagsaaa attatcttag ggactgatat 60
tygtaalLat ggtcaattta atwrtttkt ggggcatttc cttacattgt ctgacaaga 120
ttaaatgtc tgtgcaaaa ttttgtattt tatttgaga cttcttatca aaagtaatgc 180
tgccaaagga agtctaagga attagtagt tcccmteac ttgtttggag tgtctatc 240
taaaagattt tgatttcttg gaatgacaat tatattitaa ctttggtggg ggaaanagtt 300
ataggaccac agtcttcaat totgatactt gtaaatatatt cttttattgc acttgttttg 360
eccattaago tatatgttta aaa 383

<210> 224

<211> 320

<212> DNA

<213> Homo sapi n

<400> 224

ccctgaagg cttcttgta gaaatagta cagttacaac cantaggaac aacaaaaaga 60
aaaagtftgt gacattgtag tagggagtgt gtacccctta ctcacacatca aaaaaaaat 120
ggatacatgg ttaaaggata raagggcatt atillatcat atgttctaaa agagaaggaa 180

gagaaatatac	tacttttctcr	aatggaagc	oottaaaggt	gctttgatac	tgaaggacac	240
aatgtggcc	gtccatcctc	ctttaragtt	gcctgacttg	gacacggtaa	ctgttgcaqt	300
tttaractcm	gcattgtgac					320

<210> 225
 <211> 1214
 <212> DNA
 <213> Homo sapien

<400> 225						
gaggactgca	gcccgcactc	gcagccctgg	caggcggcac	tggtcattga	aaacgaattg	60
ttctgctcgg	gcgtccttgt	gcctccgcag	tgggtgctgt	cagccgcaca	ctgtttccag	120
aactcctaca	ccatcggtgt	ggcctgcac	agtcttgagg	ccgaccaaga	gccaggggagc	180
cagatgggtg	agcccagcct	ctccgtacgg	cacccagagt	acaacagacc	cttgctcgtc	240
aacgacctca	tgctcatcaa	gttggacgaa	tcctgtgccc	agtctgacac	catccgggagc	300
atcagcattg	cttcgcagtg	ccctaccggg	gggaactctt	gcctcgtttc	tggctggggt	360
ctgctggcga	acggcagaaf	gcctaccgtg	ctgcagtgcg	tgaacgtgtc	gggtggtgtct	420
gaggaggtct	gcagtaagct	ctatgacccg	ctgtaccacc	ccagcatgtt	ctgcccgggc	480
ggaggggcaag	accagaagga	ctcctgcaac	ggtgactctg	gggggccccct	gatctgcaac	540
gggtacttgc	agggccttgt	gtctttcgga	aaagccccgt	gtggccaagt	tggcgtgcca	600
ggtgtctaca	ccaacctctg	caaatctcat	gagtggatag	agaaaacagt	ccaggccagt	660
taactctggg	gactgggaac	ccatgaaatt	gacccccaaa	tacatcctgc	ggaagggaatt	720
caggaatatc	tgttcccagc	ccctcctccc	tcaggcccag	gagtcagggc	ccccagcccc	780
tcctcctcca	aaaccaagggt	acagatcccc	agccccctct	ccctcagacc	caggagtcca	840
gacccccag	ccccctctcc	ctcagaccca	ggagtccagc	ccctcctccc	tcagacccag	900
gagtcagac	ccccccagcc	ctcctcctcc	agccccaggg	gtccaggccc	ccaaacccctc	960
ctcctcaga	ctcagaggtc	caagccccca	acccccctct	ccccagaccc	aggggtccag	1020
gtcccaagcc	ctcctcctcc	agccccagcg	gtccaatgcc	acctagactc	tcctctgaca	1080
cagtcccccc	ttgtggcaag	tlgacccaac	cttaccagtt	ggtttttcat	tttttgctcc	1140
tttccctcag	alccagaaat	aaagtctaa	agaagcgcaa	aaaaaasaaa	aaaaaaaaaa	1200
aaaaaaaaaa	aaaa					1214

<210> 226
 <211> 119
 <212> DNA
 <213> Homo sapien

<400> 226						
accuagctatg	tgcaggagga	cggaaccccc	tgtgacagcc	cactccacca	gggttcccaa	60
agaaacclggc	ccagtcataa	tcaatcctcc	tgacagtgcc	aataatcaag	ataaccagt	119

<210> 227
 <211> 818
 <212> DNA
 <213> Homo sapien

<400> 227						
acaattcata	gggacgacca	atgaggacag	ggaatgaacc	cggtctctcc	ccagccctga	60
tttttgctac	atatggggtc	ctttttcatt	ctttgcacaa	acactgggtt	ttctgagAAC	120
acggacgggt	cttagcaca	tttgtgaaat	ctgtgtaraa	ccgggctttg	caggggagat	180
aattttcctc	ctctggagga	aaggtgggtg	ttgacaggca	gggagacagt	gacaaggcta	240
gagaaagcca	cgctcggcct	tctctgaacc	aggatggaac	ggcagacccc	tgaanaagaa	300
gcttgtcccc	ttccaatcag	ccacttctga	gaacccccat	ctaacttctt	actggaaag	360
agggcctctc	caggagcagt	ccaagagttt	tcaagatata	cgtgacaact	accatctaga	420
ggaaaggggtg	caccctcagc	agagaagccg	agagcttaac	tctggtcgtt	tcagagaca	480
acctgctggc	tgtcttgagg	tgcgcccagc	ctttgagagg	ccactacccc	atgaacttct	540
gccatccact	ggacatgaag	ctgagggacc	tgggcttcaa	cactgaqltg	tcattgagagg	600
gacaggctct	qccctcaagc	cggclgaggg	cagcaaccac	tctcctcccc	lttctcagcc	660
aaagcuatle	cccaaaatcc	agacntacc	atgaagcaac	gagacccaaa	cagtillygt	720
caagagqale	tgggactgt	ctcagcctgg	ctttgggctg	acaccatgca	ccccacaaag	780
gtccacttct	aggttttcag	cctagatggg	agtcgtgt			818

<210> 228
 <211> 744
 <212> DNA
 <213> Homo sapien

<400> 228

actggagaca ctgttgaact tgaatcaagac ccagaccacc ccaggtctcc ttctgtgggat	60
gtcatgaagt ttgacatacc ttgggaacga gctctctctc tgggaagatgg aagaccgtgt	120
tgttggcoga cctggcctct cctggcctgt ttcttaagat gggagatcac attcaatgg	180
taggaaaagt ggcttcgtaa aatagaagag cagtcactgt ggaactacca aatggcgaga	240
tgtctgggtgc acattgggtt gctttgggat aaaagattta tgagccaact attctctggc	300
accagattct aggcagttt gttccactga agcttttccc acagcagtcac acctctgcag	360
gctggcagct gaatggcttg ccggtggctc tgtggcaaga tcacactgag atcagtgagt	420
gagaaggcta ggaatgcttg ctagtgttct tagctgtcac gttggctcct tccaggttgg	480
ccagacgggtg ttggccactc ccttctaaaa cacaggcgcc ctctgtgtga cagtgaaccg	540
ccgtgttatg ccttggccca ttccagcagt cccagttatg catttcaagt ttgggttttg	600
ttcttttctg taatgttctc ctgttllgtc agctgtcttc alllctctgg ctaagcagca	660
ttgggagatg tggccagag atccactcct taagcaaccag tggcgaaaga cactttcttt	720
cttcaactctg aagtagctgg tgggt	744

<210> 229
 <211> 300
 <212> DNA
 <213> Homo sapien

<400> 229

cgagtctggg tttgtctat aaagtttgat cctcctttt ctcatccaaa tcatgtgaac	60
cattacacat cgaataaaaa gaaaggtggc agacttgcac aacgcccaggc tgacatgtgc	120
tgcaggttg ttgttttta attattatfg ttagaaacgt cccccacagt cctgttcat	180
ttgtatgtga cagccaaactc tgagaaggtc ctatttttcc cctgcagag gatccagctc	240
cactaggttc ctcttggccc tcacactggg gtctccgccc gtgtgggtgc ccactgarat	300

<210> 230
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 230

cagcagaaca aatacaata tgaagagtgc aaagatctca taaaatctat gctgagggaat	60
gagcgacagt tcaaggagga gaagcttgca gagcagctca agcaagctga ggagctcagg	120
caatataaag tctgtgttca cactcaggaa cgagagctga cccagttaag ggagaagttg	180
cggaaggga gagatgcctc cctctcattg aatgagcctc tccagggcct cctcaactcg	240
gatgaaccgg acaagtccca ggggcaggac ctccaagaaa cagacctcgg ccgagaccac	300
g	301

<210> 231
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 231

qcaagcacgc tggcaaatct clqtcaggtc agctccagag aagccattag tcatttttagc	60
caggaaactc aagtcacat ccttggcaac tggggacttg cgcaggtag ccttgaggat	120
qgcacacagg gacttctcat caggaagtgg gatgtagatg agctgatcaa gacggccagg	180
tctgaggatg gcaggatcaa tgatgtcagg ccggttggta ccgccaatga tgaacacatt	240
tttttttgtg gacatgccat ccatttctgt caggatctgg ttgatgactc ggtcagcage	300
c	301

<210> 232
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 232
 agtaggtact tcgtgagaag ttcaacacca aaactggaac atagtctctcc ttcaagtgtt 60
 ggcgacagcg gggcttctctg attctggaat ataactttgt gtaaattaac agccacctat 120
 agaagagtc atctgctgtg aaggagagac agagaactct gggttcctgc gtctgtcca 180
 cgtgctgtac caagtgtctg tgccagcctg ttacctgttc tcaactgaaa tctggctaatt 240
 gctcttgtgt atcaactctg attctgacaa tcaatcaatc aatggcctag agcaactgact 300
 g 301

<210> 233
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 233
 atgaotgact tccagtaag gctctctaag gggtaegtaq gaggatccc aggalttgag 60
 atgctaaggg cccagagatc gtttgetcca accctcttat ttccagaggg gaaatgggg 120
 notagaagtt acagagcacc tagctgggtg gctggcacc ctggcctcac acagactccc 180
 gagttagctgg gactacaggg acacagtcac tgaagcagg cctgttagca attctatgag 240
 tacaattaa catgagatga gtagagactt tattgagaaa gcaagagaaa atcctatcaa 300
 c 301

<210> 234
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 234
 aggtcctaca catcgagact catccatgat tgatatgaat ttaaaaatta caagcaanga 60
 catcttcttc atcagatgc ttctctctctt tctctctctt cgtctctctt lctctctctt 120
 tcaatctcag caacatactt ctcaallctt tcaggettta aaatcttgag ggattgatct 180
 cgcctcatga cagcaagttc aatgtttctg ccacctgact gaaccacttc caggagtgcc 240
 ttgatcacca gcttaatggt cagatcatct gcttcaatgg ctctgctcag atagttcttc 300
 t 301

<210> 235
 <211> 283
 <212> DNA
 <213> Homo sapien

<400> 235
 tggggctgtg catcaggcgg gtttgagaaa tattcaatcc tcagcagaag ccagaatttc 60
 aattccctca tcttttaggg aatcatttac cagggtttgg gaggattcag accgctcagg 120
 tgctttcact aatgtctctg aactctctgt cctctttgtl catggatgtt ccaataaata 180
 atgttatctt tgaaclgatg ctcataggag agaataaag aaclctgagt gatatcaaca 240
 ttagggattc aaagaatat cagalltaag ctcaactctg tca 283

<210> 236
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 236
 aggtcctcca ccaactgctt gaagcacggg taaaattggg aagaagtata gtgcagcata 60
 aatctcttta aatcgatcag attccctaa cccacatgca atcttcttca ccagaagagg 120
 tcggagcagc atcattaata ccaagcagaa tgcgtaatag ataaatacaa tggatatag 180
 tgggtagacg gcttcagtag tacagtgtac tgtggtatcg taatctggac ttgggttgta 240
 aagcatcgtg taccagtcag aaagcatcaa tactcgacat gaacgaatat aaagaacacc 300
 a 301

<210> 237
 <211> 301

<212> DNA
<213> Homo sapien

<400> 237
cagtggtagt ggtggtggac gtggcgttgg tcgtggtgcc ttttttggtg ccggtcaca 60
actcaatttt tgttcgctcc tttttggcct ttcccaattt gtccatctca attttctggg 120
ccttggtata tgccctcatg taggaagtcc cagaccagcc atggggatca aacatatcct 180
ttgggtagt ttgtgccaagc tcgtcaatgg cccagaatgg atcagcttct cgtaaatcta 240
gggttcgaa attctttctt cctttggata atgtagttca tatccattcc ctcttttate 300
t 301

<210> 238
<211> 301
<212> DNA
<213> Homo sapien

<400> 238
gggcagggttt tttttttttt ttttttgatg gtgcagaccc ttgttttatt tgtctgactt 60
gttcacagtt cagcccccctg ctcagaaaaac caacggggcca gctaaggaga ggaggaggca 120
ccttgagact tccggagtcg aggetctcca gggttcccca gcccatcaat cattttctgc 180
accccctgcc tgggaagcag ctccctgggg ggtgggaatg ggtgactaga agggatttca 240
gtgtgggacc cagggtctgt tcttcacagt aggaggtgga agggatgact aatttcttta 300
t 301

<210> 239
<211> 239
<212> DNA
<213> Homo sapien

<400> 239
alaagcagct agggaaattct ttatttagta atgtcctaac ataaaagtgc acstaactgc 60
ttctgtcasa ccagtactact gagctttgtg acaacccaga aataactaag agaaggcaaa 120
cataatacct tagagatcaa gaacattta cacagttcaa ctgtttaaaa atagctcaac 180
attcagccag tgagttaggt gtgaatgcca gcatacacag tatacaggtc cttcaggga 239

<210> 240
<211> 300
<212> DNA
<213> Homo sapien

<400> 240
ggtccaatg aagcagcagc ttccacattt taacgcaggt ttaagggtgat actgtccctt 60
gggatctgcc ctcagttgga accttttaag gaagaagtgg gcccaageta agttccacat 120
gctgggtgag ccagatgaat tctgttccct ggtcacttct ttcaatgggg cgaalqggg 180
ctgccaggtt tttaaaatca tcttccatct tgaagcacac ggtcaattca ccttctctac 240
gctgtlqggg tactttgatg aaataccca ctttgttggc ctttctgaag ctataatgtc 300

<210> 241
<211> 301
<212> DNA
<213> Homo sapien

<400> 241
gaggtctggt gctgaggtct ctgggctagg aagaggagtt ctgtggagct ggaagccaga 60
cctcttttga ggaaactcca gcagctatgt tgggtgtctt gaaggatgc aacaaggctg 120
ctcctccatg tattgaaaa ctgcaaaactg gactcaactg gaaggagtg ctgctgccag 180
tgtgaagaac cagcctgagg tgacagaaac ggaagcaaac aggaacagcc agtcttttct 240
tctctctct gtcatacggg ctctctcaag catcctttgt tgtcaggggc ctaaaaggga 300
g 301

<210> 242
<211> 301

<212> DNA

<213> Homo sapien

<400> 242

ccgaggctcct	gggatgcaac	caatcaactct	gtttcacgtg	acttttatca	ccatacaatt	60
tgtggcatttt	cctcattttc	tacattgtag	aatcaagagt	gtaaataaat	gtatatcgat	120
gtcttcaaga	atatatcatt	cctttttcac	tagaaccat	tcaaatata	agtcaagaat	180
cttaatatca	acaaatata	caagcaaat	ggaaggcaga	ataactacca	taatttagta	240
taagtaacca	aagttttata	aatcaaaagc	cctaatgata	accattttta	gaattcaatc	300

a

301

<210> 243

<211> 301

<212> DNA

<213> Homo sapien

<400> 243

aggtaagtc	cagtttgaag	ctcaaaagat	ctggatagag	cataggtca	togaagacat	60
ggtggcccaa	gotatgaat	cagaggagag	cttcattctg	gcctgtaaa	actatgatcg	120
tgaagtgag	tggactctg	lqgcccagag	gtatggctct	ctggcagga	tgaacagcgt	180
qctggttlgl	ccagatgga	agcagtaga	agcagaggt	gccacggga	ctgtaaacgg	240
tcactaccgc	atgttcaga	aaggacagga	gacgtccacc	aatcccatg	cttcatttt	300

r

301

<210> 244

<211> 300

<212> DNA

<213> Homo sapien

<400> 244

gtgtgtttgc	aagatgaa	lgaatgatte	tacagctagg	acttaacott	gaaatggaaa	60
gtcatgaa	ccatttgc	qgactgtct	gtcacatgc	ctctgtagag	agcagcattc	120
ccagggaac	tggaaacagt	tgacacagta	aggtgcttgc	tcccaagac	acatcctaaa	180
aggtgtttga	atggtgaaa	ngtcttctc	ctttattgoc	ctttcttatt	catgtgaaca	240
actgtttgic	ttttgtgtat	cttttttaa	ctgtaaagtt	caattglgaa	aatgaatc	300

<210> 245

<211> 301

<212> DNA

<213> Homo sapien

<400> 245

gtctgagtat	ttaaatgtt	attgaaatta	tcccaacca	atgttagaaa	agaaagaggt	60
tatatactta	gataaaaaat	gaggtgaatt	actatccatt	gaaatcatgc	tcttagaatt	120
aaggccagga	gatattgtca	ttaattgtara	cttcaggaca	ctagagtata	gcagccctat	180
gttttcaaag	agcaagagtg	caattaaata	ttgttttagca	tcaaaaaggc	caatcaatac	240
agctaataaa	atgaagagcc	tantttctaa	agcaattcct	tataatttac	aaagttttta	300

g

301

<210> 246

<211> 301

<212> DNA

<213> Homo sapien

<400> 246

ggtctgtcct	acaatgcctg	cttcttgaaa	gaagtcggca	ctttctagaa	tagctaaata	60
acctgggctt	attttaaaga	actatttgta	gtcagattg	gttttctct	ggcLaaata	120
agtgtctctt	gtgaaaatta	aataaaacag	ttaattcaaa	gccttgatct	atgttaccac	180
taacaatcat	actaaatata	ttttgaagta	caaagtttga	catgctctaa	agtgacaacc	240
caaatgtgtc	ttacaaaaca	cgttcctaac	aaggtatgct	ttacactacc	aatgcagaaa	300

c

301

<210> 247
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 247
 aggtcctttg gcagggtcca tggatcagag ctcaactgg agggaaaggc atttcgggta 60
 gctaaaggg gcgactggcg gcagucacac caaggaggc aagggtgttt cccccacgt 120
 gtgtcctgtg ttccaggtgag ccacacacac ctcatgggaa caggatcacc catgcgtgc 180
 ccttgatgat caagggttgg gcttaagtgg attaaggag gcaagttctg ggttccttgc 240
 cttttcaaac catgaagtca ggcctctgat cctcctttt cctaactgat attctaacta 300
 a 301

<210> 248
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 248
 aggtccttgg agatgccatt tcagccgaag gactcttctw ttccggagga cccctcact 60
 attaggaaga ttcttagggg taatttttct gaggaaggag aactagccaa ctttaagaatt 120
 acaggaagaa agtggttttg aagacagcca aagaaataaa agcagattaa attgtatcag 180
 gtacattcca gctgtttggc aactccataa aaacatttca gattttaato cccaatttag 240
 ctatagagac tggatttttg ttttttatgt tgtgtgtcgc agagcctaaa actcagttcc 300
 c 301

<210> 249
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 249
 gtccagagga agcacctggt gctgaactag gcttgccctg ctgtgaactt gcaottggag 60
 ccttgacgtt gctgtttctc ccgaaaaaac cgaccgacct ccgggatctc cgtcccgccc 120
 ccaggagagc acagcagtgta ctccagagctg gtccgacact gtgctccctt cctcaccgcc 180
 catcgtaatg aattattttg aaaattaatt ccaccatcct ttcagattct ggaatgganag 240
 actgaatctt tgactcagaa ttgtttgctg aaaagaatga tgtgacttcc ttactcatt 300
 a 301

<210> 250
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 250
 ggtctgtgac aaggacttgc aggtctgtgg aggcgaagla cccttaacac tacaattctc 60
 cttatcttta ttggtttgat aaacataatt atttctaaca ctgcttatt tccagttgca 120
 cataagcaca tcagtacttt tctctggctg gaatagttaa cttaagtatg gtacatctac 180
 ctaaaagact actatgtgga ataatacata ctaatgaagt atlacatgat ttaagacta 240
 caataaaaac aaacatgctt ataacattaa gaaaaacaat aaagctacct gattgaaccc 300
 a 301

<210> 251
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 251
 gccgaggtcc tacatttggc ccagtttccc cctgcactct ctccagggcc cctgcclcat 60
 aqcaaacctc atagagcata ggaagactgg ttgcccctgg ggcaggggga ctgtctggat 120
 ggcaggggtc ctcaaaaatg ccactgtcac tgcaggaaa tgcttctgag cagtacacct 180
 ccttgggalc aatgaaaagc ttcagaaaat cttcaggctc actctcttga aggcccgaaa 240

cctctggagg ggggcagtg aatcccagct ccaggacgga tcctgtcgaa aagatatcct 300
c 301

<210> 252
<211> 301
<212> DNA
<213> Homo sapien

<400> 252
gcaaccnate actctgtttc acgtgacttt tateaccata caatttgttg catttccctca 60
ttttctacat tgtagaatca agagtgtana taaatgtata tcatgtcttt caagaaatata 120
tcattccctt ttcactagga acccattcaa aatetaagtc aagaatctta atataaccaa 180
atatatcaag caaactggaa ggcagactaa claccataat ttgtatataag taccuaaagt 240
tttataaate aaaagcccta algataacca tttttagaat tcaatcates ctgtagaate 300
a 301

<210> 253
<211> 301
<212> DNA
<213> Homo sapien

<400> 253
ttccctaaga agatgtttatt ttgttgggtt ttgttccccc tccatctcga ttctcgtacc 60
caactaaaaa aaaaaataa agaaaaaatg tgcctgcgttc tgaaaaataa ctcccttagct 120
tggctcgatt gttttcagac cttaaaaataf aaacttgttt cacaagcttt aatccatgtg 180
gatttttttt cttagagaa cacaanaacat aaaaggagca agtcggactg aatacctgtt 240
tccatagtgc ccacagggtt ttctcacat tttctccata ggaaaatgct ttttcccaag 300
g 301

<210> 254
<211> 301
<212> DNA
<213> Homo sapien

<400> 254
cgctgcgcct ttcccttgagg ggagggggcaa ggccagaggg ggtccaagtg cagcacgagg 60
aacttgacca attcccttga agcgggtggg ttasaccctg taaatgggaa caaatcccc 120
ccaaatctct tcatcttacc ctggtggact cctgactgta gaattttttg gttgaaacaa 180
gaaaaaataa aagcttttga cttttcaagg ttgcttaaca ggtactgaaa gactggcctc 240
acttaaaactg agccaggaaa agctgcagat ttattaatgg gtgtgttagt gtgcagtgcc 300
t 301

<210> 255
<211> 302
<212> DNA
<213> Homo sapien

<400> 255
agcttttttt tttttttttt tttttttttt ttcatlaaaa astagtgtct tttattataa 60
attactgaaa tgtttctttt ctgaatataa atataatat gtgcaasgtt tgaccllqgat 120
tgggattttt ttgagttctt caagcatctc ctaataccct caagggcctg agtagggggg 180
aggaaaaagg actggaggtg gaatctttat aaaaaacaag agtgattgag gcagattgtg 240
aacattatta aaaaacaaga aacaaacaaa aaaatagaga aaaaaccac cccaaacac 300
aa 302

<210> 256
<211> 301
<212> DNA
<213> Homo sapien

<220>
<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 256

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gttccagaaa acattgaagg tggcttcccc aagtcctaact agggataccc cctctagcct    60
aggaccctcc tccccacacc tcaatccacc aaaccatcca taatgcaccc agataggccc    120
acccccaaaa gacctggacac cttaggcaca cagttatgac caggacugac tcatctctat    180
aggcaaatag ctgctggcaa actggcatta cctggtttgt ggggatggg gggcaagtgt    240
gtggcctctc ggcctgggta gcaagaacat tcagggtagg cctaagttan tcgtgttagt    300
t                                                                    301

```

<210> 257

<211> 301

<212> DNA

<213> Homo sapien

<400> 257

```

gttctggagg aaactcggct tgcctattaa gtccactga ttttcactat cccctgaatt    60
tccccactta ttttctctt tcaactatgc aggccttaga agaggtotac ctgcctccag    120
tcttacctag tccagcttac cccctggagt tagaatggc atcctgaagt gaaaagtaat    180
gtcacattac tcccttcagt gatttcttgt agaagtggc atcctgaat gccaccaaga    240
tcttaattct cactcttta atcttatctc ttgactcct cttacaccg gagaaggctc    300
c                                                                    301

```

<210> 258

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 258

```

cagcagtagt agatgccgta tgcagcagc ccagcactc ccaggatcag caccagcacc    60
agggggccag ccaccaggcg cagaagcaag ataaacagta ggctcaagac cagagccacc    120
ccaggggcaa caagaatcca ataccaggac tgggcataat cttcaagat cttacactg    180
atgtctcggg cattgaggct gtcaataana cgtgatccc ctgctgtatg gtggtgtcat    240
tggtgatccc tgggagcgcc ggtggagtaa cgttgggtcc tggaaagcag cgcacacac    300
t                                                                    301

```

<210> 259

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc_feature

<222> {1}...{301}

<223> n = A, T, C or G

<400> 259

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tcataatgc aaacaaatgc agactangcc tcaggcagag actaaaggac atctcttggg    60
gtgtcctgaa gtgatttggg cccctgaggg cagacaccta agtaggaac ccagtgggaa    120
gcaaagccat aaggaagccc aggtattcct gtgatcagga agtgggccc gaaggtctgt    180
tcagctcac atctcatctg catgcagcac ggaccggatg cgcaccactg gtcttggctt    240
ccctcccatc ttctcaagca gtgtccttgt tgagccattt gcatacttgg ctccagggtg    300
c                                                                    301

```

<210> 260

<211> 301

<212> DNA
<213> Homo sapien

<400> 260
 tttttttttt ccctaaggaa aangaggaa caagtctcat aaaaaaaaat aagcaatggt 60
 aaggtgtctt aacttgaana agattaggag tcactggllt acaagttata attgaatgaa 120
 agaactgtaa cagccacagt tggccatttc atgccaatgg cagcaacaa caggattcac 180
 tagggcaaaa taantaogtg tgtggaagcc ctgataaqtg cttaataaac agactgattc 240
 actgagacat caqlacctgc cggggcggcc gctcgagccg aattctgcag atatccatca 300
 c 301

<210> 261
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 261
 aaatattcga gcaaatcctg taactaatgt gtctccataa aaggctttga actcagtga 60
 tctgcttcca tccacgattc tagcaatgac ctctcggaca tcaaagctcc tottaagggt 120
 agcaccacat attccataca attcatcagc aggaataaaa ggctcttcag aaggttcaat 180
 ggtgacatcc aattttcttct gataatttag attcctcaca accttcttag ttaagtgaag 240
 ggcattgatga tcatccaaag cccagtggtc acttaactcca gactttctgc aatgaagatc 300
 a 301

<210> 262
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 262
 gaggagagcc tgttacagca tttgtaagca cagaatactc caggagtatt tgtaattgtc 60
 tgtgagcttc ttgccgcaag tctctcagaa atttaaaaag atgcaaatcc ctgagtcacc 120
 cctagacttc cttaaccaga tctctctggg ctggaacctg gcactctgca tttgtaatga 180
 gggctttctg gtgcacacct aattttgtgc atctttgccc taaatcctgg attagtgcgc 240
 catcattacc cccacattat aatgggatag attcagagca gatactctcc agcaaaagat 300
 c 301

<210> 263
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> {1}...{301}
 <223> n = A, T, C or G

<400> 263
 tttagcttgt ggtaaatgac tcacaaaaat gatcttaaaa tcaagttaat gtgaattttg 60
 aaaattacta cttaatccta attcacaata acaatggcat taaggtttga cttgagttgg 120
 ttcttagtat tatttatggt aataggctc ttaaccattg caaataactg gccacatcat 180
 taatgactga ctccacagta aggtctctta aggggtaagt angaggatcc acaggatttg 240
 agatgctaag gcccacagaga tcgtttgato caacctctt attttcagag gggaaaatgg 300
 g 301

<210> 264
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 264
 aaagacgita aaccactcta ctaccacttg tggaaacttc aaaaaggtaaa tgacaaaacc 60

aatgaatgac tctaaaaaca atatttccat ttaattggtt gtagacaata aaaaaacaag 120
 gtggatagat ctagaattgt aacattttta gaaaccata scatttgaca gatgagaaag 180
 ctaattata gacgcaagt tataactaa ctactatagt agtaaagaaa tacatttca 240
 acccttata taatttact atcttggtt gaggaactcc atanaatgta taactgcat 300
 a 301

<210> 265

<211> 301

<212> DNA

<213> Homo sapien

<400> 265

tgcccaagtt atgtgtaagt gtatccgcac ccagaggtaa aactacactg taacttttgt 60
 ctctctgtga cgcagtattt ctctctctgg gagaagccgg gaagtcttct cctggctctc 120
 catattcttg gaagtctcta atcaactttt gtccatttg ttctatttct tcaggaggga 180
 ttttcagttt gtcaacatgt tcttaacaa caattgccc tttctgtaa gaatccaaag 240
 cagtcacaagg ctttgacatg tcaacaacca gcataactag agtatcttc agagatacgg 300
 c 301

<210> 266

<211> 301

<212> DNA

<213> Homo sapien

<400> 266

tacagtctgc ctttctccc atccaggcca tctgogaato tacatgggtc ctctatttg 60
 acaccagatc actcltctct ctaccacag gcttgctatg agcaagagac acaactctct 120
 ctctctcttg lccagcttc tllctctgtt ctccacccc cttaagttct attctgggg 180
 atagagacac caatacccat aacctctctc ctaagctcc ttataaccca gggtagacag 240
 cacagaatcc tgacaactgg taaggccast gaactgggag ctacacagcag gctgtgctg 300
 a 301

<210> 267

<211> 301

<212> DNA

<213> Homo sapien

<400> 267

aaagagucac ggccagctca gctgcccctg gccatctaga ctacagctgg ctccatgggg 60
 gttclcaatg ctgagtcuat ccaggaaaag ctacactaga cttcttgagg ctgaatcttc 120
 atctcacaag gaagclcttg agagcctgat attctagac ttgatgggtt ggagtaaaag 180
 ctactctga lctctctct lctttcttt caagttggt tctctacat cctctgttc 240
 aattcgttc agcttgcltg ctttagccct catttccaga agcttctct ctttggcatc 300
 t 301

<210> 268

<211> 301

<212> DNA

<213> Homo sapien

<400> 268

aatgtctcac tcaactaatt ccagcctao cgtggcctaa ttctgggagt tttcttttta 60
 gatcttggga gacttggttc ttctaaggag aaggaggaag gacagatgta actttggatc 120
 togaagggga agtctaattg aagtaattag tcaacggctc ttgttttaga tcttgggata 180
 tcttgggttg ctcaatgag ccttttggag aaagcaagta ttatttttaa ggagtaacca 240
 ctcccatg ttctaatttc taacatcato aattgtatat tatgtattct ttggagaact 300
 a 301

<210> 269

<211> 301

<212> DNA

<213> Homo sapien

<400> 269
 taacaatata cactagatat ctttttaact gtccatcatt agcaccaatg aagattcaat 60
 aasattacot ttattcacac atctcaaaac aattctgcaa attcttagtg aagtttaact 120
 atagtcacag acottaaata ttccacattgt tttctatgtc tactgaaaat aagttcaacta 180
 cttttctgga tattctttac aaaatcttat taaaattcct ggtattatca cccccaatta 240
 tacagtagca caaccacott atgtagtttt tacatgatag ctctgtagaa gtttcacatc 300
 t 301

<210> 270
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 270
 cattgaagag cttlttgogaa acatcagaac acnagtgcct ataaaattaa ttaagcotta 60
 cacaagaata catcttcott ttattttctaa ggagtttaac atagatgtag ctgatgtgga 120
 gagcttgctg gtgcagkgca tattggataa cactattcct ggccgaattg atcaagtcac 180
 ccaactcctt gaactggatc atcagaagaa gggtggtgca ccatatactg cactagataa 240
 tggaccaccc aactaaatto tctcaccagg ctgtatcagt aaactggctt aacagaaaaa 300
 a 301

<210> 271
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 271
 aaaaggttct catasgatte acaattttaa taactatllg atagaaacatt ctttctcatt 60
 ttatagctc atcttttaggg ttgataktca gttoatgctt ccttggctgt tcttgatcaa 120
 gaattgcaat cacttcatca gectgtatc gctccaatto tclataaagt gggtccaaagg 180
 tgaaccacag agccacagca cactcttttc ccttggtgac tgccttcacc ccatgagggt 240
 tctctctccc agatganaac tgatctgog cccacatttt gggttttata gaagcagtc 300
 c 301

<210> 272
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 272
 taanltgcta agccacagat aacaccacac aaatgggaca aatcacgtgc ttcaaatgtc 60
 ttctcagaaa acccaatgag cctgggaatct tcaataatac taanacatgoc gtatttagga 120
 tccaataatt ccttcattgat gagcaagaaa aattcttttg gcacccctcc tgcacccaca 180
 gcatcttctc caacaatat aaccttgagc ggcttctctt aatctatctt ctttggtttc 240
 ctaaggactt coattgcac tectacaata ttltctctac gcacccactag aattaaagcag 300
 g 301

<210> 273
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 273
 acatgtgtgt atgtgtatct ttgggaaan aanaagacat cttgtttcayt attttttttgg 60
 agagangctg ggacatggat aatcacwtaa ttgtctayta tyactttaat ctgactygaa 120
 gaacgcgtcta aaaaataaaat ttaccatgtc dtatatctct tategtatgc ttatttcacc 180
 tttttttgt ccagagagag tatcagtgac ananatttma gggagaamac atgmattggg 240
 gggacttnly ttacngagm accctgcccg sgugccctcg makcngantt ccgcsananc 300
 t 301

<210> 274
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 274
 cttatatact ctttctcaga ggcaaaagag gagatgggta atgtagacaa ttctttgagg 60
 aacagtaaat gattattaga gagaangaat ggaccaagga gacagaaatt aacttgtaaa 120
 tgattctctt tggaatctga atgagatcaa gaggccagct ttatgtttgt gaaaagtcca 180
 totaggtatg gttgcattct cgtcttcttt tctgcagtag ataatgaggt aaccgaaggc 240
 aatttgtcct cttttgataa gaagctttct tggctatata aggaattcc aganaaagtc 300
 c 301

<210> 275
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 275
 tcggtgtcag cagcacgtgg cattgaacat tgcaatgtgg agcccaaaac acagaaaatg 60
 gggtgaaatt ggcaaatctt ctatttaact atgttggcaa ttttgcacc aacagtaagc 120
 tggcccttct aataaaagaa aattgaagg tttctcacta aacggaatta agtagtggag 180
 tcaagagact cccaggctc agcgtacutg ccggggcggc cgtctgaagc cgaattctgc 240
 agatatacat cacaactggcg gncgctcgan catcactata gaaggnccaa ttgcacctat 300
 a 301

<210> 276
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 276
 tgtacacata ctcaataaat aaatgactgc attgtggtat tattactata ctgattatat 60
 ttatcatgtg acttctaatt agaaaatgta tccaaaagca aaacagcaga tatacaaaat 120
 taaagagaca gaagatagac attaacagat aaggcaactt atacattgag aatccaaatc 180
 caatacattt aaacatttgg gaaatgaggg ggacaaatgg aagccagatc aaatttgtgt 240
 aaaactatto agtatgttct ccttgcctca tgtctgagaa ggctctcctt caatggggat 300
 g 301

<210> 277
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A, T, C or G

<400> 277
 ttgtgtgatg tcagtatttt attacttgcg ttatgagtgc tcacctggga aattctaaag 60
 atacagagga cttggaggaa gcagagcaac tgaatttaac ttaaaagaag gaaaacattg 120
 gaatcatggc actcctgata ctttcccaaa tcaacactct caatgcccc cctcgtcct 180
 caccatagtg gggagactaa agtggccacg gatttgcctt angtggtcag tgcgttctga 240
 gttenctgtc gattacatct gaccagtctc ctttttccga agtccntcog ttcaattctg 300
 c 301

<210> 278
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A, T, C or G

<400> 278
 taccacacaa ctccagcctg ggcaacagag caagacctgt ctcaaagcat aaaatggaat 60
 aacatataaa atgaaacagg gaaaatgaag ctgacaattt atggaagcca gggcttctca 120
 cagtctctac tgttattatg cattacctgg gaatttatat aagcccttaa taataatgcc 180
 aatgaacatc tcagtgtgtc tcacaatgtt ctggcactat tataagtgtt tcacaggttt 240
 tatgtgttct tcgtaacttt atggantagg tactcggcog cgaacacgct aagccgaatt 300
 c 301

<210> 279
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n = A, T, C or G

<400> 279
 aaagcaggaa cgacaaagct tgccttctctg gtatgttcta ggtgtattgt gacttttact 60
 gttatattaa ttgccaatat aagtaaatat agattatata tgtatagtgt ttacacaaagc 120
 ttagaccttt accttcacgc caccacacag tgcctgatat ttacagagtc gtcattgggt 180
 atacatgtgt agttccaaag cacataagct agaaanaaa atatttctag ggagcactac 240
 catctgtttt cacatgaat gccacacaca tagaactcca acatcaattt cattguacag 300
 a 301

<210> 280
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 280
 ggtaclggag ltttctccc ctgtgaaaac gtaactactg ttgggagtgga attgaggatg 60
 tagaaagggt gtagaaccaa attgttgtca atggaatatg gagaatatgg ttctcactct 120
 ttagaasaaa acctaaagatt agccacagta gttgcctgta acttcagttt ttctgcctgg 180
 gtttcatata gtttaggggt ggggttagat taagatctaa attacatcag gacaaagaga 240
 cagactatta actccacagt taattaagga ggtatgttcc atgtttattt gttaaagcag 300
 t 301

<210> 281
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 281
 eggtaacaaga aggggaatgg gaaagagctg ctgctgtggc attgttcaac ttgatattc 60
 gccgagcaat ccaaactctg aatgaagggg catcttctga aaaaggagat ctgaatctca 120
 atgtggtagc aatggcttta tgggtctata cggatgagaa gaactccctt tggagagaaa 180
 tgtgtagcac actgcgatta cagctaaata aaccgtattt gtgtgtcatg ttgcatttc 240
 tgacaagtga aacaggatct taogatggag ttttgtatga aaacaaagtt gcagtacctc 300
 g 301

<210> 282
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 282
 caggtactac aganttaaa tactqacaaq caagtatgtt ctgggcgtgc acgaattgca 60
 tccagaaccc aaaaatttaq aaattcaaaa agacattttg tgggcacclg ctgacacaga 120
 agcgcagaaq caaagcccaq gcagaaacat gctaacctta cagclcaqcc tgcaagaaq 180
 cgcagaagca aagcccagc agaaccatgc taaccttaca gctcagcctg cacaagaagc 240
 cagaagcaaa gccagggcag aacatgctaa ccttcagct cagcctgcac agsagcacag 300
 a 301

<210> 283
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 283
 atctgtatac ggcagacaaa ctttatarag tctagagagg tgagcgaag gatgcaaaag 60
 caatttgagg gttttataat aatatctctg ttgaaaaaa aaatgtgtag ttgclactca 120
 gtgcactcct agcatagka aggggttgccl clgacccatu aggtgatcat ttttctatc 180
 acttccagg tttatgcce aatttctgtt aaattctata atgglgatat gcatotttta 240
 ggaacatat acatllttaa aatctattt tatgtaagaa ctgacagacg aatttgcttt 300
 g 301

<210> 284
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 284
 caggtacaaa acgctattaa gtggcttaga atttgaacat ttgtggtctt tatttacttt 60
 gcttcgtgtg tgggcaagc aacatcttcc ctaaatatat attaccaaga aagcaagaa 120
 gcagattagg tttttgacaa aacaaacagg ccanaagggg gctgacctgy agcagagcat 180
 ggtgagaggg aagguatgy agggcaagtt tgttgtggac agatctgtgc ctactttatt 240
 actggagtaa aagaaacaa agttcattga lgtcgaagga tatatacagt gttagaant 300
 a 301

<210> 285
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc feature
 <222> (1)...(301)
 <223> n - A,T,C or G

<400> 285

acatcaccat gatcggatcc cccacccatt ataogttgta tgtttacata aatactcttc	60
aatgatcatt agtgttttaa aaaaaatact gaaaactcct tctgcacccc aatctctaac	120
caggaaagca aatgctatit acagacctgc aagccctccc tcaaacnaaa ctattttctgg	180
attaaatatg tctgacttct tttgaggcca cccgactagg caaatgotat ttaogtatctg	240
caaaagctgt ttgaagagtc aaagccccc tgtgaacacg atttctggac cctgtaacag	300
t	301

<210> 286

<211> 301

<212> DNA

<213> Homo sapien

<400> 286

taccactgca ttccagcctg gttgacagag tgagactccg tctccaaaa aaactttgct	60
tglatatctt tlllgcctta cagtggaalca ttctagttagg aaaggacagt aagattttll	120
atcaaaatgt gtcctgccag taagagatgt tataattctt tctccttct tccccccca	180
aaataagct accctatagc ttataagctt caaatllttg ctttttacta aaatgctgatt	240
gtttctgttc attgtgtatg cttcatcacc tatattaggg aaattccatt tttcccttg	300
t	301

<210> 287

<211> 301

<212> DNA

<213> Homo sapien

<400> 287

tacagatctg ggaactaaat attaaaaatg agtgtggctg gatatatgga gaatgttggg	60
cccagaagga acgtagagat cagatattac aacagctttg ttttgagggt tagaaatatg	120
aaatgatttg gttatgaagc cccagttctg gcagcagggc cagaatcctg accctctgcc	180
ccgtggttat ctcctccca gcttgctgc ctctgttct cccagtatc ccttlhgctt	240
gttgcctgct ttgtgaagcc atcaagcttt tctcgtctgt tttcctctca ttggtaatgc	300
t	301

<210> 288

<211> 301

<212> DNA

<213> Homo sapien

<400> 288

gtacacctaa ctgcaaggac agctgaggaa tghtaatggc agcgcgtttt aaagaagtac	60
agtcaatagg aagacaaatt ccagttccag ctccagtctg gtatctgcaa agctgcacaa	120
gatcttttaa gacaatttca agagaatatt tccctaaagt tggcaatttg gagatcatac	180
aaaagcatct gcttttgtga ttttaattag utcatctggc uactggaaga atccaaacag	240
tctgccttaa ttttggatga atgcctgctg gaaattccat aatttagaaa gttcaaaaaa	300
a	301

<210> 289

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(301)

<223> n = A,T,C or G

<400> 289

ggtacactgt ttccatgcta tgtttctaca cattgctacc tcaagtgtcc tggaaaacta	60
gcttttgatg ttcccaagta gtccaccttc atttaactct ttgaaactgt atcatctttg	120
ccaagtaaga gtggtggcct atttcagctg ctttgacaaa atgactggct cctgaactaa	180

cggtctataa atgaatgtgc tgaagcaaaag tgcctatggc ggaggcgaan aagaqaaaga 240
 tgtgttttgt ttggactct ctgtggtccc ttccatgct gtgggttccc aaccagngga 300
 a 301

<210> 290
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 290
 acactgagct cttcttgata aatatacaga atgcttggca tatacaagat tctatactac 60
 tgactgatct gttcatttct ctcacagctc ttacccccaa aagcttttcc accctaagtg 120
 ttctgacctc cttttctaata cacagtaggg atagaggcag anccacctac aatgaacatg 180
 gagttctatc aagaggcaga aacagcacag aatcccagtt ttaccattcg ctacagtgct 240
 tgccttgaac aaaaacattt ctccatgtct ctttttcttc atgcctcaag taacagtgag 300
 a 301

<210> 291
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 291
 caggtaacca ttctttctat cctagaaacc ttctcttcta tgttgttgaa acataacaaac 60
 tatatcagct agaillllll lctatgctti acclgclatg gaaaalliga cacattctgc 120
 ttactcttt tgtttatagg tgaatcacaa aatgtatttt tatgtattct gtatttcaat 180
 agccatggct gtttacttca tttaatittat ttagcataaa gacattatga aaaggcctaa 240
 acatgagctt caattcccca ctaactaaft agcatctgtt atttcttaac cgtaatgoot 300
 a 301

<210> 292
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 292
 acccttttagt agtaatgtct aataataaat aagaatcaa ttttataagg tccatatagc 60
 tgtattaaat aatttttaag tttaaaagat aaaataccat cattttaaat gttgggtattc 120
 aaacccaaag natataaccg aaaggaaaaa cagatgagac ataaaatgat ttgonagatg 180
 ggaatatatg tastyatga atgttnatta aattccagtt ataatagttg ctacacactc 240
 tcactacaca cacagacccc acagtccat atgcacacaa cacatttcca taacttgaaa 300
 a 301

<210> 293
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 293
 ggtaccagt gclggcgcca gctgtttacc tgttctcact gaaaagtctg gctaatgctc 60
 tlqlgtagtc acttctgatt ctgacattca atcaatcaat ggcctagagc ctgactatt 120
 saacaaaag tcactcgcaa agtagcaaca gctttaagtc taatatcaaa gttgttttgt 180


```

gtgagaattt tttaaaaggc tacctgtata ataacccttg tcatttttaa tgtacctcgg      240
ccgcgaccac gctaagccga attctgcaga tatccatcac actggcgccc gctcgagcat      300
g                                                                                   301

```

```

<210> 294
<211> 301
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(301)
<223> n = A,T,C or G

```

```

<400> 294
tgaccataa caatatacac tagctatott tttaaactgtc catcatttagc accaatguag      60
attcaataaa attacottta ttcaacacatc tcaaaancaat tctgczaatt cttagtgaag      120
tttaactata gtcacaganc ttaaattatto acattgtttt ctatgtctac tgaaaatnag      180
ttcaactatt ttctgggata ttctttacaa aatcttatta aaattcctgg tattaloacc      240
ccaattata cagtagcaca accacottat gtatgtttta catgalagct ctgtaggggt      300
t                                                                                   301

```

```

<210> 295
<211> 305
<212> DNA
<213> Homo sapien

```

```

<400> 295
gtacttttcc tctccctccc tctgaattta attctttcaa cttgcaattt gcaaggatta      60
cacatttcac tgtgatgtat attgtgttgc aaaaaaaaat gtgtctttgt ttaaaattac      120
ttggtttgtg aatccatctt gcttttccc cattggaaat agtcattaac ccattctctg      180
actggtagaa aaactcttga agagctagtc tatcagcacc tgcaggggta attggatggg      240
tctcagaacc atttcaccca gacagccctgt ttctatcctg tttactaat tagtttgggt      300
tctct                                                                                   305

```

```

<210> 296
<211> 301
<212> DNA
<213> Homo sapien

```

```

<400> 296
aggctactatg ggaagctgct aaaataatat ttgatagtaa aagtatgtaa tgtgctatct      60
cacctagtag taactaataa ataaactgaa actttatgga atctgaagtt attttccttg      120
attaataga attaataaac caatatgagg aaacatgaaa ccatgcaatc tactatcaac      180
tttgaaaaag tgattgaacg aaccacttag ctttcagatg atgaacactg ataagtcatt      240
tgtcattact ataaatttta aactctgtta ataagatggc ctatagggag gaaaagggg      300
c                                                                                   301

```

```

<210> 297
<211> 300
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(300)
<223> n = A,T,C or G

```

```

<400> 297
actgagtttt aactggacgc caagcaggca aggctggaag gttttgctct ctttgtgcta      60
aaqgttttga aaaccttgaa ggagaatcat ttgacaaga agtacttaag agtctagaga      120
acaaagangt gaaccagctg aaagctctcg ggggaanctt acatgtgttg ttaggcctgt      180

```

tccatccttg	ggagtgcact	ggccatccct	caaaatttgt	ctgggctggc	ctgagtggtc	240
accgcacctc	ggccgcgacc	acgctaagcc	gaattctgca	gatatccatc	acactggcgg	300

<210> 298
 <211> 301
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(301)
 <223> n = A,T,C or G

<400> 298						
tatggggttt	gtcaccacaan	agctgatgct	gagaaaggcc	tccctggggc	ccctcccgog	60
ggcatctgag	agacctgggt	ttccagtgtt	tctggaaatg	ggccccagtg	ccgcgggctg	120
tgaagctctc	agatcaatca	cgggaagggc	ctggcggtgg	tggccacctg	gaaccacct	180
gtcctgtctg	tttacatttc	actaycaggt	tttctctggg	cattacnatt	tgttcccta	240
caacagtgac	ctgtgcatto	tgtgtgtggc	tgtgtgtgtc	gcaggtggct	ctcagcgagg	300
t						301

<210> 299
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 299						
gttttgagac	ggagtttcac	tcttgttgcc	cagaactggac	tgcaatggca	gggtctctgc	60
tcaetgcacc	ctctgcctcc	caggttcgag	caattctcct	gcctcagcct	cccaggttagc	120
tgggattgca	ggctcagccc	accataccca	gctaattttt	ttgtattttt	agtagagacg	180
gagtttggcc	atgttggcca	gctggctctc	aactcctgac	ctcaagcgac	ctgcctgcct	240
cggcctccca	aagtgtctga	attatagguu	tgagtcaaca	cgcctcagcct	aaagatattt	300
t						301

<210> 300
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 300						
attcagtttt	atttgcctgc	ccagtatctg	taaccaggag	tgccacaaa	tcttgccaga	60
tatgtccac	acccactggg	aaaggctccc	acctggctac	ttcctctatc	agctgggtca	120
gctgcattcc	acaaggttct	cagcctaatt	agtttcaact	cctgccagtc	tcaaaactta	180
gtaaagcaag	accatgacat	tccccacgg	aaatcagagt	ttgccccacc	gtcttggtac	240
tataaagcct	gcctctaaca	gtccttgctt	cttcacacca	atcccagagc	catcccccat	300
g						301

<210> 301
 <211> 301
 <212> DNA
 <213> Homo sapien

<400> 301						
ttaaattttt	gagaggataa	aaaggacaaa	taatctagaa	atqlqcttto	tlcagctctgc	60
agaggacccc	aggctctccaa	gcaaccacat	ggtcaagggc	atgaataatt	aaaagtttgt	120
gggaactcac	aaagaccttc	agagctgaga	caccacaaac	agtgggagct	cacaaagacc	180
ctcagagctg	agacacccac	aacagtggga	gtcacaaaag	accctcagag	ctgagacacc	240
cccacagca	cctcgttcag	ctgccacatg	tgtgaataag	gatgcaatgt	ccagaagtgt	300
t						301

<210> 302
 <211> 301

<212> DNA

<213> Homo sapien

<400> 302

```

aggtacacat ttagcttgtg gtaaatgact cacaaaactg attttaaaat caagttaatg      60
tgaattttga aaattactac ttaactctaa ttcacaataa caatggcatt aaggtttgac      120
ttgagttggt tcttagtatt atttatggta aataggctct taccacttgc aaataactgg      180
ccacatcatt aatgactgac ttcccagtaa ggctctctaa ggggtaagta ggaggatcca      240
caggatttga gatgctaagg cccagagat cgtttgatcc aacctotta ttttcagagg      300
g                                          301

```

<210> 303

<211> 301

<212> DNA

<213> Homo sapien

<400> 303

```

aggtaccaac tgtggaaata ggtagaggat ctttttttct ttccatatac actaagttgt      60
atatgttttt ttgacagttt aacacatctt cttctctcag agattcttct acaatagcac      120
tggctaattg aactaccgct tgcattgtta aatgggtggg ttgtgaattg atcctagggc      180
agtaacgggt atgtttttct aactgatctt ttgtctcttc caaagggacc tcaagacttc      240
catcgatttt atatctgggg totagaaaag gaggtaatct gttttccctc ataaeltcac      300
c                                          301

```

<210> 304

<211> 301

<212> DNA

<213> Homo sapien

<400> 304

```

acatggatgt tattttgcag actgtcaacc tgaatttga tttgcttgac attgocataat      60
tattagtttc agtttcagct taaccaacttt ttgtctgcaa catgcaraas agacagtgcc      120
ctttttagtg tctcatatca ggaatcatct cacattgggt tgtgccatta ctggtgcagt      180
gactttcagc cacttgggtg aggtggaggt ggccatagct ctccactgca aaattactga      240
tttctctttt gtaattaat agtgtgtgtg tgaagattct ttgagatgag gtatatatct      300
c                                          301

```

<210> 305

<211> 301

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> {1}...{301}

<223> n = A,T,C or G

<400> 305

```

gangtacagc gtggtcaagg taacaaqaaq aaaaaaatgt gagtggcctc ctgggatgag      60
caggggggaca gacctggaca gacacgttgt cttttctctg tgtgggtagg acaatgggag      120
taaaggaggga gaaacagata caaactctcc aactcaglat taaggatatt tcatgacctag      180
aatatttggtg gaaacaaaga tacattcata tggcaaatga claacccatgg tggaaacaaa      240
ttctgggatt taagliggat accaangaaa ttgtattaaa agagctcttc atggaataag      300
a                                          301

```

<210> 306

<211> 8

<212> PRT

<213> Homo sapien

<400> 306

Val Leu Gly Trp val Ala Glu Leu

1

5

<210> 307
 <211> 637
 <212> DNA
 <213> Homo sapien

<400> 307

acaggggatg	aagggaaag	gagaggatga	ggaagccccc	ctggggattt	ggtttgggtcc	60
ttgtgatcag	gtggtctatg	gggtttatcc	ctacaaagaa	gaatccagaa	ataggggcac	120
attgagggaat	gatacttgag	cccaaaagagc	attcaatcat	tgtttttattt	gcctttttttt	180
cacaccattg	gtgagggagg	gattaccacc	ctggggttat	gaagatgggt	gaacacccca	240
cacatagcac	cggagatatg	agatcaacag	tttcttagcc	atagagattc	acagcccaga	300
gcaggaggac	gcttgccac	catgcaggat	gacatggggg	atggcgtcgg	gattgggtgtg	360
aagnagcaag	gactgttaga	ggcaggcttt	ataqtaacaa	gacgggtggg	caaacctctga	420
tttccgtggg	ggaatgtcat	ggtcttgcct	tactaaggtt	tgagactggc	aggtagtqaa	480
actcattag	ctgagaaact	tgtggaalgc	actlgaacca	actgatagag	gaagtggcca	540
ggtgggggac	tttcccagtc	ggtgtgggac	atatctggcc	agctlltgtg	gcactcctgg	600
ttacagatac	tggggcagcc	aakaaaactg	aactcttg			637

<210> 308
 <211> 647
 <212> DNA
 <213> Homo sapien

<220>

<221> misc feature

<222> (1)... (647)

<223> n = A,T,C or G

<400> 308

acgatttca	ctctcatgta	aatcgggtca	ctccgggggc	caaccacaga	tgggagccac	60
tgtccagggg	aagggttcta	tgggacttln	tactgcccaa	ggttctatac	aggtatataa	120
ggngootcag	agtalagatc	tggtagcaca	gsagaagaaa	caaacactga	tctctttctg	180
ccaccctctc	gaccttttgg	aactcctctg	accttttaga	acaagcctac	ctaataatctg	240
ctagagaaaa	gaccaacaac	ggcctcaaa	gatctcttac	catgaaggto	tcagctaatt	300
cttggctaag	atgtgggttc	cacattaggt	tctgaatatg	gggggaaggg	tcaatttgc	360
catttttgtt	gtggataaag	tcaggatgcc	cagggggccag	agcagggggc	tgcttgcttt	420
gggaacaatg	gctgagcata	taacatagg	ttatggggaa	caaaacaaca	tcaaagtcac	480
tgtatcaatt	gocatgaaga	cttgagggac	ctgaatctac	cgattcatct	taaggcagca	540
ggaccagttt	gagtggcaac	aatgcagcag	cagaatcaat	ggaacaaca	gaatgattgc	600
aatgtccttt	tttttctcct	gcttctgact	tgataaaagg	ggaccgt		647

<210> 309
 <211> 460
 <212> DNA
 <213> Homo sapien

<400> 309

acttttatgt	ttaggctgga	nattggaaaa	aaaaaaga	cagaacaaca	tgtgatagat	60
aatatgattg	gctgcacact	tccagactga	tgaatgatga	acgtgatgga	ctattgtatg	120
gagcacatct	tcagcaagag	ggggaaatac	tcatcatttt	tggccagcag	ttgtttgatc	180
acaaaacac	atgccagaat	actcagcaaa	cottcttagc	tcttgagaag	tcaaaagtcg	240
ggggaaattt	ttcctggcaa	ttttaattgg	actccttatg	tgagagcagc	ggctacocag	300
ctgggggtgt	ggagcgaacc	cgtaactagt	ggacatgcag	tggcagagct	cctggtaacc	360
acctagagga	atacacaggc	acatgtgtga	tgcgaagcgt	gacacctgta	gcactcaaat	420
ttgtcttgtt	tttgtcttct	ggtgtgtaag	attcttaagt			460

<210> 310
 <211> 539
 <212> DNA
 <213> Homo sapien

```

<400> 310
acgggagctta tcaaatcaag atagggeaaag aagaaaactc aaatatataa ggcagaaatg      60
ctaaaggttt taaaatatgt cagggettga aagaaggcatg gatcaagcac aaagttcagt      120
taggaagagag aaacacagag ggaaagagaca caataaagat cattatgtat tctgtgagaa      180
gtcagacagt aaagatttgt ggaaatgggt tggtttgttg tatggtatgt attttagcaa      240
taattctttat ggcagagaaa gctaaaatcc tttagcttgc gtgaatgatc acttgcctga      300
ttcctcaagg taggcattgat gaaggagggt tttagaggaga cacagacaca atgaactgac      360
ctagatagaa agccttagta tactcageta ggaatagtga ttctgagggc acactgtgac      420
atgattatgt cattacatgt atggtagtga tggggatgat aggaaggag aacttatggc      480
atattttcac cccacacaaa gtcagttaaa tattgggaca ctaaccatcc aggtcaaga      539

```

```

<210> 311
<211> 526
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(526)
<223> n = A,T,C or G

```

```

<400> 311
caaatattgag ccaatgacat agaattttac aaatcaagaa gattattctg gggccatttc      60
ttttgacggt tctctcaaac tectaaagag gcatlaatga tccalaaatt atattatota      120
catttacagc abttcaaatg tglcagcat gaatatattg ctacagggga agclaaataa      180
atleaacatg gaataaagat ttgtccttaa atataatcta caagaagact ttgatatttg      240
tttttcacaa gtgaagcatt ctataaagat gtcataacct ttttggggga actatgggga      300
aaaatgggga aactctgaag ggttttaagt atcttacctg aagctacaga ctccataacc      360
tctctttaca gggagctcct gcagccctta cagaatgag tggctgagat tcttgattgc      420
acagcaagag ctctcatct aaaccctttc cttttttagt atctgtgtat caagtataaa      480
agttctataa actgtagtnt acttatitta atccccaaag cacagt      526

```

```

<210> 312
<211> 500
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(500)
<223> n = A,T,C or G

```

```

<400> 312
cctctctctc cccacccctt gactctagag aactgggttt tctcccagta ctccagcaat      60
tcattttctg aagcagttga gccactffat tccaaagtac actgcagatg ttcaaaactct      120
ccattttctt ttcccttcca cctgccaagt ttgotgactc tcaacttgtc atgagtgtaa      180
gcattaagga cattatgctt ctctgattct gaagacagga cctgctcatg gatgactctg      240
gottcttagg aaatatattt tottccaaa tcagtaggaa atctaaactt atccctctct      300
tgcagatgtc tagcagcttc agacatttgg ttaagaaccc atgggaaaaa aaaaaatcct      360
tgctaattgt gtctcctttg taaccanqa ttcttatttg nctggtatag aatatcagct      420
ctgaacgtgt ggtaaagatt tttgtgtttg aatataggag aaatcagttt gctgaaaagt      480
tagtcttaat tatctattgg

```

```

<210> 313
<211> 718
<212> DNA
<213> Homo sapien

```

```

<220>
<221> misc_feature
<222> (1)...(718)

```

<223> n - A, T, C or G

<400> 313

ggaggttctg	gtggtttgca	gocgagggag	accaggaaga	tctgcatggt	gggaaggacc	60
tgatgataca	gaggtgagaa	ataagaaagg	ctgctgactt	taaccatctga	ggccacacat	120
ctgctgaaat	ggagataatt	aacatcacta	gaaacagcaa	gatgacaata	taatgtctaa	180
gtagtacat	gtttttgcac	atttccagoc	cttttaata	ccacacaca	caggagacac	240
aaaaggaagc	acagagatcc	ctgggagaaa	tgcccgccg	ccatcttggg	tcacgatga	300
gcctcgccct	gtgcctgntc	ccgcttgtga	gggaaggaca	ttagaaatg	aattgatgtg	360
ttccttaaaag	gatggcagga	aaacagatcc	tgttgtggat	atttatttga	acgggattac	420
agatttgaaa	tgaagtccca	aagtgagcat	taccnatgag	aggaaaacag	acgagaaaat	480
cttgatggtt	cacaagacat	gcaacacaca	aaatggaaat	ctgtgatgac	acgagcagcc	540
aaactggggag	gagataccac	ggggcagagg	tcaggattct	ggccctgctg	cctaactgtg	600
cgttatacca	atcatttcta	ttctacccct	caaaccaagct	gtngaatatc	tgaattacgg	660
ttcttntggo	ccacattttc	atnatecacc	ccntentttt	aannttantic	caaatgt	718

<210> 314

<211> 358

<212> DNA

<213> Homo sapien

<400> 314

gtttatttcc	attacagaaa	aaacatccag	acaatgtata	ctatttcaaa	tatatccata	60
cataatcaaa	tatagctgta	gtacatgttt	tcattggtgt	agattaccac	aaatgcagg	120
caacatgtgt	agatctcttg	tcttattctt	ttgtctataa	tactgtattg	tgtagtccaa	180
gotctcggtg	gtccagccac	tgtgaaacat	gtcccttita	gattaaacctc	gtggacgctc	240
ttgttgtatt	gctgaactgt	agtgcctctg	attttgcttc	tgtctgtgaa	ttctgttct	300
tctggggcat	ttccttgtga	tgcagaggac	caccacacag	atgacagcaa	tctgaatt	358

<210> 315

<211> 341

<212> DNA

<213> Homo sapien

<400> 315

taccacntcc	ccgctggcac	tgatgagccg	catcaacatg	gtcaccagca	ccatgaaggc	60
atagggtgatg	atgaggacat	ggaatgggcc	cccaaggatg	gtctgtccaa	agaagcgagt	120
gaccccatc	ctgaagatgt	ctggaacctc	taccagcagg	atgatgatag	ccccaatgac	180
agtcaccagc	tccrcgacca	gocggatata	gtccttaggg	gtcatgtagg	cttccctgaag	240
tagcttctgc	tgtgaagagg	tgttgcccg	ggggctcgtg	cggttatttg	tcctgggctt	300
gagggggcgg	tagatgcagc	acatggtgaa	gcagatgatg	t		341

<210> 316

<211> 151

<212> DNA

<213> Homo sapien

<400> 316

agactgggca	agactcttcc	gccccacact	gcaatttggg	cttggttgcg	tatccatttc	60
tgtgggcctt	tclogaqtth	ctgattatac	accccactgg	agcgtgtgt	tgaclgact	120
cattcagggg	gctctgggtg	caatatagtt				151

<210> 317

<211> 151

<212> DNA

<213> Homo sapien

<400> 317

agaactagtg	gatccaatg	aaataactga	aacatatatt	ggcattttatc	aatggctcaa	60
atcttcattt	atctctggcc	ttaacctggg	ctcctgaggc	tgcggccagc	agatcccagg	120
ccagggtctc	gtctttgcca	caactgcttg	a			151

<210> 318
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 318
 actggtgga ggcgtgttt agttggctgt ttccagaggg gtctttcgga gggacctct 60
 gctgcaggct ggagtgtctt tattcctggc qggagaccgc acattccact gctgaggctg 120
 tgggggcagt ttatcaggca gtgataaaca t 151

<210> 319
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 319
 aactagtga tccagagcta taggtacagt gtgatctcag ctttgcaaac acattttcta 60
 catagatagt actaggtatt aatagatatg taaagaaaga aatcacacca ttaataatgg 120
 taagattggg tttatgtgat tttagtgggt a 151

<210> 320
 <211> 150
 <212> DNA
 <213> Homo sapien

<400> 320
 aactagtga tccactagtc cagtgtggtg gaattccatt gtgttgggt tctagatcgc 60
 gagcggctgc cttttttttt tttttttttg ggggggaatt tttttttttt aatagttatt 120
 gagtgttcta cagcttcag taaataccat 150

<210> 321
 <211> 151
 <212> DNA
 <213> Homo sapien

<400> 321
 agcaactttg tttttcatcc aggttatitt aggcttagga tttctctca cactgcagtt 60
 taggttgga ttgtaaccag ctatggcata ggtgttaacc aaaggctgag taaacatggg 120
 tgctctgag aatcaaatg ctccatacac t 151

<210> 322
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature
 <222> (1)...(151)
 <223> n = A,T,C or G

<400> 322
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 tttgggcttg gtcagtttc cacaggcctt ggagatggtg acagtcttct ggcattcggc 120
 attgtgcagg gctcgttcca nacttccagt t 151

<210> 323
 <211> 151
 <212> DNA
 <213> Homo sapien

<220>
 <221> misc_feature

<222> (1)...[151]

<223> n = A,T,C or G

<400> 323

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nagactcant	tactacccag	tctgtggttt	twtgggagaa	atgtactagg	acagttagct	120
gttcaatyaa	aaagacactt	ancccatgkg	g			151

<210> 324

<211> 461

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...[461]

<223> n = A,T,C or G

<400> 324

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agaagtgtgc	agctaaagga	atocagggtt	ttgggtggac	tgtaatacc	tttgatgaaa	120
agagttacta	cgaatcccat	cttgggtcca	gctatatcac	tgacagcatg	gtagaagact	180
gogaacctca	cttctagact	ttcacgggtg	gacgaaacgg	gttcagaaac	tgccaggggc	240
ctcatacagg	gatataaaaa	taccttttgt	gctacccagg	ccctggggaa	tcagggtgact	300
cacacaaatg	caatagtgtg	tcaatgcatt	tttacctgaa	ccaaagctaa	acccgggtgtt	360
gccaccatgc	accatggcat	gccagagttc	aacactgttg	ctcttqaaa	ttgggtctaga	420
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<210> 325

<211> 400

<212> DNA

<213> Homo sapien

<400> 325

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gttttgtttt	ggactctctg	tggctccctc	caatgctgtg	ggtttccaac	caggggaagg	300
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<210> 326

<211> 1215

<212> DNA

<213> Homo sapien

<400> 326

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agacccccca gccctctctc cctcagaccc aggagtcacg cccctctctc ctacagaccca 900
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aaaaaaaaa aaaaaa 1215

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<210> 327
 <211> 220
 <212> PRT
 <213> Homo sapien

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<400> 327
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20 25 30
Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
35 40 45
Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
50 55 60
Ala Ser Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu Leu Ala
65 70 75 80
Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu Ser Asp
85 90 95
Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
100 105 110
Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
115 120 125
Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
130 135 140
Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
145 150 155 160
Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
165 170 175
Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
180 185 190
Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
195 200 205
Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser
210 215 220

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<210> 328
 <211> 234
 <212> DNA
 <213> Homo sapien

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<400> 328
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atccgcagtg ggtgctgtca gccacacact gttccagaa ctccatcacc atcgggctgg 180
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<210> 329
 <211> 77
 <212> PRT
 <213> Homo sapien

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<400> 329
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Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val M t Glu Asn Glu Leu
 20 25 30
 Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val Leu Ser Ala Thr
 35 40 45
 His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly Leu His Ser Leu
 50 55 60
 Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu Ala
 65 70 75

<210> 330
 <211> 70
 <212> DNA
 <213> Homo sapien

<400> 330
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 gctgcagcca 70

<210> 331
 <211> 22
 <212> PRF
 <213> Homo sapien

<400> 331
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 Val Ser Gly Ser Cys Ser
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<210> 332
 <211> 2507
 <212> DNA
 <213> Homo sapien

<400> 332
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<210> 333
 <211> 3030
 <212> DNA
 <213> Homo sapien

<400> 333

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<210> 334

<211> 2417

<212> DNA

<213> Homo sapien

<400> 334

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<211> 2984

<212> DNA

<213> Homo sapien

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<211> 147

<212> FRT

<213> Homo sapien

<400> 336

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102

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 Pro Lys Gln Pro Gln Lys Arg Ser Arg Ala Ala Phe Ser His Thr Gln
 35 40 45
 Val Ile Glu Leu Glu Arg Lys Phe Ser His Gln Lys Tyr Leu Ser Ala
 50 55 60
 Pro Glu Arg Ala His Leu Ala Lys Asn Leu Lys Leu Thr Glu Thr Gln
 65 70 75 80
 Val Lys Ile Trp Phe Gln Asn Arg Arg Tyr Lys Thr Lys Arg Lys Gln
 85 90 95
 Leu Ser Ser Glu Leu Gly Asp Leu Glu Lys His Ser Ser Leu Pro Ala
 100 105 110
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 Ala Phe Trp
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 <212> PRT
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<400> 337
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 <212> PRT
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 <212> PRT
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 35 40 45
 Ala Asn Thr Gly Ile Gly Lys Glu Thr Ala Lys Glu Leu Ala Gln Arg
 50 55 60
 Gly Ala Arg Val Tyr Leu Ala Cys Arg Asp Val Glu Lys Gly Glu Leu
 65 70 75 80
 Val Ala Lys Glu Ile Gln Thr Thr Thr Gly Asn Gln Gln Val Leu Val
 85 90 95
 Arg Lys Leu Asp Leu Ser Asp Thr Lys Ser Ile Arg Ala Phe Ala Lys
 100 105 110
 Gly Phe Leu Ala Glu Glu Lys His Leu His Val Leu Ile Asn Asn Ala
 115 120 125
 Gly Val Met Met Cys Pro Tyr Ser Lys Thr Ala Asp Gly Phe Glu Met

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His Ile Gly Val Asn	His Leu Gly	His Phe Leu Leu Thr His Leu Leu
145	150	155
Leu Glu Lys Leu Lys	Glu Ser Ala Pro Ser	Arg Ile Val Asn Val Ser
165	170	175
Ser Leu Ala His	His Leu Gly Arg	Ile His Phe His Asn Leu Glu Gly
180	185	190
Glu Lys Phe Tyr Asn	Ala Gly Leu Ala Tyr Cys	His Ser Lys Leu Ala
195	200	205
Asn Ile Leu Phe Thr	Gln Glu Leu Ala Arg	Arg Leu Lys Gly Ser Gly
210	215	220
Val Thr Thr Tyr Ser	Val His Pro Gly Thr	Val Gln Ser Glu Leu Val
225	230	235
Arg His Ser Ser Phe	Met Arg Trp Met Trp	Trp Leu Phe Ser Phe Phe
245	250	255
Ile Lys Thr Pro Gln	Gln Gly Ala Gln Thr	Ser Leu His Cys Ala Leu
260	265	270
Thr Glu Gly Leu Glu	Ile Leu Ser Gly Asn	His Phe Ser Asp Cys His
275	280	285
Val Ala Trp Val Ser	Ala Gln Ala Arg Asn	Glu Thr Ile Ala Arg Arg
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305	310	315

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 <213> Homo sapien

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 <212> DNA
 <213> Homo sapien

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attaalctaa caattctctg tgatggtttt atctgcagta atatgtatat catctattag	240
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 <211> 592
 <212> DNA
 <213> Homo sapien

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cctggcaggt aaaccaatgc caagagagt atggaaacca ttggcaagac tttgttgatg	180

accaggattg gaattttata aaaatattgt tgatgggaag ttgctaaagg gtgaattact	240
tccctcagaa gagggtgaaag aaaagtcaga gatgctataa tagcagctat ttaattggc	300
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tcagcatggg ctgtttgggt caaatgcaaa agcacaggtc ttttagcat gctgggtctct	420
cccggtgctt tatgcaata atgtctctt totaaatttc tctaggctt cattttcaa	480
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<211> 382

<212> DNA

<213> Homo sapien

<400> 343

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<210> 344

<211> 536

<212> DNA

<213> Homo sapien

<400> 344

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<210> 345

<211> 251

<212> DNA

<213> Homo sapien

<400> 345

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gctgtgggca ggaalacaa tccacactg cccaggagcc agacacattt atggaacaga	180
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<210> 346

<211> 282

<212> DNA

<213> Homo sapien

<220>

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<400> 346

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agaaaggctt	tctatttcac	tgcccaggt	agggggaagg	agagtaactt	tgagtctgtg	240
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<210> 347

<211> 201

<212> DNA

<213> Homo sapien

<220>

<221> misc feature

<222> (1)...(201)

<223> n - A, T, C or G

<400> 347

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<210> 348

<211> 251

<212> DNA

<213> Homo sapien

<400> 348

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<210> 349

<211> 251

<212> DNA

<213> Homo sapien

<400> 349

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cagaagcggc	tgaactctac	gtgttaccag	agaacataat	gcaattcatg	cattccactt	180
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<210> 350

<211> 908

<212> DNA

<213> Homo sapien

<400> 350

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 <211> 472
 <212> DNA
 <213> Homo sapien

<400> 351						
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 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 352						
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caggtgtcgt	tccgtcctta	ngalgaagac	cagatgcag	tttccaaaca	ttgccactac	180
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 <211> 436
 <212> DNA
 <213> Homo sapien

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 <211> 854
 <212> DNA
 <213> Homo sapien

<400> 354						
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 <211> 676
 <212> DNA
 <213> Homo sapien

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attagatttt	cttgacttgt	atgtatctgt	gagatcttga	ataagtgacc	tgaatctctc	660
gcttaaaagaa	aaccag					676

<210> 356
 <211> 574
 <212> DNA
 <213> Homo sapien

<400> 356						
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catgtggcac	ctgactggca	tcaaaccaaa	gttcgttaggc	caacaaagat	gggccaactca	120
caagcttccc	atttgttagat	ctcagtgccg	atgagttctc	gacacctgtt	cctctcttca	180
gtctcttagg	gaggcttaaa	tctgtctcag	gtgtgctaaq	agtgcacagc	caaggkpggc	240
aaaagtcac	aaaactgcag	tctttgctgg	gtagtaagc	caagagtgcc	ctggacagca	300
gagttctttt	cttgggcaac	agataaccag	acaggactct	aatcgtgctc	ttcttcaaca	360
ttctctgtgc	tctgcctaga	ctggaataaa	aagccaatct	ctctcgtggc	acaggaaggg	420
agatacaagc	tcgtttacat	gtgatagatc	taacaaaggc	atctaccgaa	gtctggtctg	480
gatagacggc	acagggagct	cttaggtcag	cgtgctgggt	tggaggacat	tctgagctcc	540
agctttgcag	cctttgtgca	acagtacttt	cccc			574

<210> 357
 <211> 393
 <212> DNA
 <213> Homo sapien

<400> 357						
tttttttttt	tttttttttt	tttttttttt	tacagantat	aratgcttta	tcactgkact	60
taatatggkg	kttgttccac	tatacttcaa	aatgcaccac	tcaataatat	ttaattcagc	120
aagccacaac	caaracttga	ttttatcaac	aaaaaacctc	aatatataac	ggsaaaaaag	180
atagatatca	ttactccagt	tttttttaaa	cttaaaatct	attccattgc	cgaattaaara	240
araarataag	tgttatatgg	aaagaagggc	alicaagccac	actnaaraaa	cctgaggkaa	300
gcataatctg	tacaaaatta	aactgtcctt	tttggcctlt	taacaaattt	gcaacgktct	360
ttttttcttt	ttttgttttt	tttttttttt	tac			393

<210> 358
 <211> 630
 <212> DNA
 <213> Homo sapien

<400> 358

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ttastgttta	taggaataatg	atgagttttat	gacaaaggaa	gtagatagtg	ttttacaaga	120
gcataagatg	gggaagctaa	tccagcacag	ggaggtcaca	gagacatccc	taaggaagtg	180
gagtttaaac	tgaagagagc	aagtgcctaa	actgaaggat	gtgttgaaag	agaagggaga	240
gtagaacaa	ttgggcagag	ggacatttat	agaccctaag	gtgggaaggt	tcaaagaact	300
gaaagagagc	tagaacagct	ggagccgttc	tccggtgtaa	agaggagtca	aagagataag	360
attaaagatg	tgaagattaa	gatcttgggtg	gcattcaggg	attggcactt	ctacaagaaa	420
tcactgaagg	gagtaatgtg	acattacttt	tcacttcagg	atggccattc	taactccagg	480
gggtagactg	gactaggtaa	gactggaggg	aggtagacct	cttctaaggg	ctgcgatagt	540
gaaagacaaa	aataagtggg	gaaattcagg	ggatagtga	aatcagtagg	acttaatgag	600
caagccagag	gttccctcac	aacaaccagt				630

<210> 359

<211> 620

<212> DNA

<213> Homo sapien

<400> 359

acagcattcc	aaaatataca	tctagagact	aarrgtaaat	gctctatagt	gaagaagtaa	60
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ctcaccagaa	gaataaagtg	ctctgccagt	tattaaagga	ttactgctgg	tgaattaaat	180
alggcattcc	ccaaaggaaa	tagagagall	cttctggatt	algttcaato	tttatttcc	240
aggaftaaat	gttttaggaa	caqatataaa	gcttgcgcac	qgaagagatg	gacaaagcac	300
aaagacaaac	tgatccctta	ggaagcaaac	ctaccctttc	aggaatnaaa	tttgagagaa	360
tgcaacatta	lgcttccctga	ataaklatgt	gaaggaaggt	ctgatgaaa	lgacatcctt	420
aattgtasgat	aactttataa	gaattctggg	tcaaatnaaa	ctctttgaag	naaacatcca	480
aattgtcattg	acttatcaaa	tactatcttg	gcataaacc	tatgaaggca	aaactnaaca	540
aacaaaaagc	tcacacaaaa	caaaaccatc	aacttatitt	gtattctata	acatacagga	600
ctgtaaagat	gtgacagtgt					620

<210> 360

<211> 431

<212> DNA

<213> Homo sapien

<400> 360

aaaaaa	agccagaacc	acatgtgata	gataakataa	ttgggtgcac	acttccagac	60
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tactcatcat	ttttggccag	cagttgtttg	atcaccnaac	atcatgccag	aatactcagc	180
aaaccttctt	agctcttgag	aagtcnaagt	cgggggggat	ttattcctgg	caattttaat	240
tggaactcctt	atgtgagagc	agcggctacc	cagctggggg	ggtggagcga	acccgtcact	300
agtggacatg	cagtggcaga	gctcctggta	accaactaga	ggaatacaca	ggcacatgtg	360
tgatgccaaag	ogtgacacct	gtagcaactca	aatttgtctt	gtttttgtct	ttcgggtgtgt	420
agattcttag	t					431

<210> 361

<211> 351

<212> DNA

<213> Homo sapien

<400> 361

acactgattt	cggatcaaaa	gaatcatoat	ctttacottg	acttttccagg	gaattactga	60
actttctctt	cagaagatag	ggcacagcca	ttgacttggc	ctcacttgaa	gggtctgcat	120
ttgggtctct	tggtctcttt	ccaggtttcc	cagccactcg	agggagaaat	atcggggagt	180
ttgaactcct	ccggaggttt	cccgaggggt	tcacagttag	ccctggagcc	ctcagggctg	240
caatcttggg	ttcaatgtcl	gaaacotogo	tcctgtgctg	ctggacttct	qagggcgtca	300
ctgcaactct	gtcctccaga	cttgaagagt	ctcctatcgt	ggctctgttg	+	351

<210> 362

<211> 463

<212> DNA
<213> Homo sapien

<400> 362

aattcatcag	gccataatgg	gtgcctcccg	tgagaatcca	agcaacctttg	gactgcgcga	60
tgtagatgag	ccggctgaag	atcttgcgca	tgcggcgctt	cagggcgaag	ttcttggcgc	120
ccccgggtcac	agaaatgacc	aggttgggtg	ttttcagggtg	ccagtgcctgg	gtcagcagct	180
cgtaaaggat	ttccgcgtcc	gtgtcgcagg	acagacgtat	atacttccct	ttcttcccca	240
gtgtctcaca	ctgaatatcc	ccaaaggcgt	cggtaggaaa	ttccttgggtg	tgtttcttgt	300
agttccattt	ctcactttgg	ttgatctggg	tgccttccat	gtgctggctc	tgggcatagc	360
cacacttgca	cacattctcc	ctgataagca	cgatggtgtg	gacaggaagg	aaggatttca	420
ttgagcctgc	ttatggaaac	tggtatttgt	agcttaata	gac		463

<210> 363
<211> 653
<212> DNA
<213> Homo sapien

<220>

<221> misc feature

<222> (1) . . . [653]

<223> n = A, T, C or G

<400> 363

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ctcttqngca	ttctgggtgc	catcttcatg	aattggcaacc	gtgccagwga	ggctgtcctc	120
tgggagggac	tacgcaagat	gggactgcgt	cctgggggtga	gacatccctc	ccttggagat	180
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ccaacagcaa	cccccgggaa	gtatgagttc	ctctrgggcc	tcogttccta	ccatgagaac	300
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atittggaga	tccttggctc	agaattccat	ttcccttctg	ggccagatcc	caccagaatg	600
cccgctccag	attccctcag	acctttggcg	gccccallat	tggctcctggt	ggc	653

<210> 364
<211> 401
<212> DNA
<213> Homo sapien

<400> 364

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acaaagccaa	tgaatgactc	taaaaacaat	atttacattt	aatggtttgt	agacaataaa	120
aaaacaaggc	ggatagatct	agaattgtaa	cattttaaga	aaaccatagc	atttgacaga	180
tgagaaagct	caattataga	tgcaaaagta	taactaaact	uctatagttag	taaagaanta	240
catttcacac	ccttcataata	aattcactat	cttggcttga	ggcaactccat	aaaatgtatc	300
acgtgcatag	taaactcttta	tatttgcctat	ggcgttgcac	tagaggactt	ggactgcac	360
aagtggatgc	gcgggaantg	aatctcttcl	caatagacca	g		401

<210> 365
<211> 356
<212> DNA
<213> Homo sapien

<400> 365

ccagtgtcat	atttgggctt	aaaatttcaa	gaagggcact	tcaaatggct	ttgcatttgc	60
atgtttcagc	gttagagcgt	aggaatagac	cctggcgctc	actgtgagat	gttcttcagc	120
tccagagcca	tcaagtctct	gcagcaggtc	attcttgggt	aaagaaatga	cttccacaaa	180
ctctccatcc	cctggttttg	gcttcggcct	tgggttttgc	gcacatctct	cgttaaatgg	240
gactgtcagc	atgtgtatag	tacagtttga	caagcctggg	tccatacaga	ccgctggaga	300
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110

<210> 366
 <211> 1851
 <212> DNA
 <213> Homo sapien

<400> 366
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 ctcccggttt ctccatttctt ctccastagc cataaatctt ctacctctgg ctggctgttt 120
 tcaacttctt taagcccttg tgcctcttcc tctgatgtca gctttaagtc ttgttctgga 180
 ttgtgttttt cagaaagagat ttttaacatc tgtttttctt tgtagtccga aagtaactgg 240
 caaattacat gatgatgact agaaacagca tactctctgg cagtcttcc agatcttgag 300
 aagatacatc aacattttgc tcaagttagg ggctgactat acttgctgat ccacaacata 360
 cagcaagtat gagagcagtt ctcccatatc tatccagcgc atttaaatc gctttttct 420
 tgattaaaaa ttccaccact tgcgtttttt gctcatgtat accaagttag agtgggtgga 480
 ggccatgctt gttttttgat tccatatacag caccgtataa gagcagtgct ttggccattt 540
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 ttggtcagtt gatgtttcc agcaacatta acgcacatto atcttctgg cagtgtacgg 660
 cttttgtcag agctgtcttc tttttgttgt caaggacatt aagttgacat cgtctgtcca 720
 gacgcagttt tactacttct gaattcccat tggcagaggg cagatgtaga gcagtcctct 780
 tttgcttggt cctcttggtc acatccgtgt ccttgagcat gacgatgaga tccctttctg 840
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 gtcnatccag ggaggaagaa atgcagggaa tgaagagtg atgcacgtg gtatctctct 1140
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 aatataattt tctcttgagg ccatatggat gaactatgaa ggaagaactc ccgaagaag 1440
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 gctctgaga aacaccccag ctcttccggt ctacacaggg caagtcaata aatgtgataa 1620
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 tttgacaaaa tccagctcc lltatcttat tgttgcaatt ctccagaggaa atgcttctaa 1740
 ctttccccc tttgctatc tgttggtctg ggtctgtcc taggtggtt ttattactt 1800
 aaggtatgtc cttctatgc ctgttttact gagggtttca attctcgtgc 1851

<210> 367
 <211> 668
 <212> DNA
 <213> Homo sapien

<400> 367
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 accrtataag agcagtgtt tggccattaa tttatcttcc attrtagaca gortagtgya 180
 gagtggatatt tccatactca tctggaatat ttggatcagt gccatgttcc agcaacatta 240
 acgcacatto atcttcttgg cattgtacgg cctgtcagta ttgacccaa aaacaaatta 300
 catatcttag caattccaaa taacatloca cagctttcac caactagtta tatttaaagg 360
 agaaaactca tttttalgc algtattgaa atcaaaccca cctcatgctg atatagttgg 420
 ctacacata cttttatcag agctgtctc tttttgttgt caaggacatt aagttgacat 480
 cgtctgtcca gcaggagttt tactacttct gaattcccat tggcagaggg cagatgtaga 540
 gcagtcctat cagagtgaga agacttttca ggaaltgta gtgcactaga tucagccata 600
 gccatgattc atgtaactgc aacactgaa tagcctgela ttaactctgc ttcacaaaaa 660
 aaaaaaa

<210> 368
 <211> 1512
 <212> DNA
 <213> Homo sapien

<400> 368

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tccatgcggg	ctgcttcttc	tgtgaagaag	ccatttggtc	tcaggagcga	gatgggcaa	300
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gcctgtgtgg	gtaaagttccc	cagaaaggat	ctcatcgcca	tgtcaggga	cactgacgtg	720
accaaagagg	acaaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcatgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
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gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
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ttttttcccc	taattgaatg	aagatggcaa	aatttgcctt	gaatataggtt	ttacatgaaa	1380
actccaagaa	aagttaaaac	tgtttcagtg	aatagagatc	ctgctccttt	ggcaagttcc	1440
taaaaaacag	taatatgatac	gagggtgatgc	gcctgtcagt	ggcaaggttt	aagatatttc	1500
tgatctogtg	cc					1512

<210> 369

<211> 1853

<212> DNA

<213> Homo sapien

<400> 369

gggtcgccca	gggggagcgt	gggttttcc	cggttgggtg	tgggttttcc	ctgggtgggg	60
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tgggtgtgcc	gttgcctccc	ctgctgcagg	gagagcggca	agagcgaagc	gggcacttct	360
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gccttcatgg	akcccaggta	ccacgtccrt	ggagaagatc	tggacaagct	ccacagagct	660
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accaaagargg	acaaagcaaaa	gaggactgct	ctacatctgg	cctctgccaa	tgggaattca	780
gaagtagtaa	aactcatgct	ggacagacga	tgtcaactta	atgtccttga	caacaaaaag	840
aggacagctc	tgayaaaggc	cgtacaatgc	caggaagatg	aatgtgcgtt	aatgttgcgtg	900
gaacatggca	ctgatccaaa	tattccagat	gagtatggaa	ataccactct	rcactaygct	960
rtctayaatg	aagataaatt	aatggccaaa	gcactgctct	tatayggtgc	tgatatcgaa	1020
tcaaaaaaca	agcatggcct	cacaacactg	ytacttggtr	tacatgagca	aaaacagcaa	1080
gtagtgaat	ttttaatya	gaaaaaagcg	aatttaaaat	gcrcctggata	gatatggaa	1140
ractgctctc	atacttgcgt	tatgttgtgg	atcagcaagt	atagtcagcc	ytctacttga	1200
gcaaaatrct	gatgtatctt	ctcaagatct	ggaaagacgg	ccagagagta	tgtgttltct	1260
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cctatgagac	taggctttga	gaatcaataa	attotttttt	taagaaetct	tgggttagga	1560
gcggtgtctc	acgcctgtaa	ttccagcacc	ttggaagqct	gaugtgggca	gacacagaga	1620

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ggagaatgac	atgaacccgg	gaggtgaggg	ttgcagtgag	ccgagatccg	ccactacact	1800
ccagcctggg	tgacagagca	agactctgtc	tcacacacac	aaaaaacaaa	aaa	1853

<210> 370
 <211> 2184
 <212> DNA
 <213> Homo sapien

<400> 370

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aaaaccacct	atgacaagcc	cacagccaac	ataactactaa	atggggganaa	gttagaagca	120
tttcctctga	gaactgcaac	aataaatata	aggatgctgg	attttgtcaa	atgccttttc	180
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ttattgactt	gootgtgtta	gaccggaaga	gctgggggtg	ttctcaggag	ccacccgtgtg	300
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ggagtctctc	cttcatagtt	catccatattg	gctccagagg	aaaattatat	tattttgtta	480
tggatgaaga	gtattacgtt	gtgcagatat	actgcagtgt	cttcactctc	tgatgtgtga	540
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<210> 371
 <211> 1855
 <212> DNA
 <213> Homo sapien

<220>

<221> Misc feature

<222> {1}.T.(1855)

<223> N = A, T, C or G

<400> 371

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cgtaacggct	tggctgcgcct	gtaacggcct	gcacgtgcac	gctgcaogcg	cgtaacggcg	240
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<210> 372

<211> 1059

<212> DNA

<213> Homo sapien

<400> 372

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gcgcttgrgg	agactmcgat	gacagygcct	tcatggagcc	caggtaccac	gtccgtggag	180
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catctgagct	ctgccaatgg	gaattcagaa	gtagtasaac	tctgtctgga	cagacgatgt	360
caacttaatg	tccctgacaa	caaaaagagg	acagctctga	yaaaggccgt	acaaatgacg	420
gaagatgaat	gtggtttaat	gttgcctggg	catggcactg	atccaaatat	tccagctgan	480
tatggaaata	ccactctrua	ctaygctrtc	tayaatgaag	ataaatat	ggccaaaagca	540
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<210> 373

<211> 1155

<212> DNA

<213> Homo sapien

<400> 373

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<210> 374

<211> 2000

<212> DNA

<213> Homo sapien

<400> 374

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<210> 375

115

<211> 2040
 <212> DNA
 <213> Homo sapi n

<400> 375

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<210> 376
 <211> 329
 <212> PRT
 <213> Homo sapien

<400> 376

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		20					25					30		Glu
Glu	Tyr	Thr	Ile	Val	His	Ala	Ser	Phe	Ile	Ser	Cys	Ile	Ser	Ser
	35						40					45		
Leu	Asp	Gly	Gln	Gly	Glu	Arg	Gln	Glu	Gln	Arg	Gly	His	Phe	Trp
	50					55				60				Arg
Pro	Gln	Arg	Leu	Leu	Cys	Glu	Asp	Ala	Trp	Glu	Gln	Glu	Val	Gln
	65				70				75					80
Val	Leu	Pro	Leu	Leu	Pro	Leu	Leu	Gln	Gly	Ser	Gly	Lys	Ser	Asn
			85					90						95
Val	Ala	Trp	Gly	Asp	Tyr	Asp	Asp	Ser	Ala	Phe	Met	Asp	Pro	Arg
			100					105					110	Tyr
His	Val	His	Gly	Glu	Asp	Leu	Asp	Lys	Leu	His	Arg	Ala	Ala	Trp
			115					120						125

116

Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met Leu Arg Asp Thr Asp
 130 135 140
 Val Asn Lys Arg Asp Lys Gln Lys Arg Thr Ala Leu His Leu Ala Ser
 145 150 155 160
 Ala Asn Gly Asn Ser Glu Val Val Lys Leu Val Leu Asp Arg Arg Cys
 165 170 175
 Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr Ala Leu Thr Lys Ala
 180 185 190
 Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met Leu Leu Glu His Gly
 195 200 205
 Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr
 210 215 220
 Ala Val Tyr Asn Glu Asp Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr
 225 230 235 240
 Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly Leu Thr Pro Leu Leu
 245 250 255
 Leu Gly Ile His Glu Gln Lys Gln Gln Val Val Lys Phe Leu Ile Lys
 260 265 270
 Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr Gly Arg Thr Ala Leu
 275 280 285
 Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile Val Ser Pro Leu Leu
 290 295 300
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 305 310 315 320
 Ser Met Leu Phe Leu Val Ile Ile Met
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<210> 377

<211> 148

<212> PRT

<213> Homo sapien

<220>

<221> VARIANT

<222> (1)...(148)

<223> Xaa = Any Amino Acid

<400> 377

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 Asp Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Xaa Asp Lys
 35 40 45
 Gln Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu
 50 55 60
 Val Val Lys Leu Xaa Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp
 65 70 75 80
 Asn Lys Lys Arg Thr Ala Leu Xaa Lys Ala Val Gln Cys Gln Glu Asp
 85 90 95
 Glu Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro
 100 105 110
 Asp Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Xaa Tyr Asn Glu Asp
 115 120 125
 Lys Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser
 130 135 140
 Lys Asn Lys Val
 145

<210> 378

<211> 1719

<212> PRT

<213> Homo sapi n

<400> 378

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
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 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
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 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Cln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Asn Val Ser Arg Thr Arg Asn Lys
 370 375 380
 Pro Arg Thr His Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser
 385 390 395 400
 Ser Val Lys Lys Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys
 405 410 415
 Cys Arg Cys Phe Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly
 420 425 430
 Thr Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys
 435 440 445
 Met Gly Lys Trp Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly
 450 455 460
 Lys Ser Asn Val Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys

465 470 475 480
 Thr Leu Arg Asn Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys
 485 490 495
 Cys Arg Gly Ser Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp
 500 505 510
 Asp Ser Ala Phe Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu
 515 520 525
 Asp Lys Leu His Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp
 530 535 540
 Leu Ile Val Met Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln
 545 550 555 560
 Lys Arg Thr Ala Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val
 565 570 575
 Val Lys Leu Leu Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn
 580 585 590
 Lys Lys Arg Thr Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu
 595 600 605
 Cys Ala Leu Met Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp
 610 615 620
 Glu Tyr Gly Asn Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys
 625 630 635 640
 Leu Met Ala Lys Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys
 645 650 655
 Asn Lys His Gly Leu Thr Pro Leu Leu Gly Val His Glu Gln Lys
 660 665 670
 Gln Gln Val Val Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala
 675 680 685
 Leu Asp Arg Tyr Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly
 690 695 700
 Ser Ala Ser Ile Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser
 705 710 715 720
 Ser Gln Asp Leu Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser
 725 730 735
 His His His Val Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln
 740 745 750
 Met Leu Lys Ile Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys
 755 760 765
 Leu Thr Ser Glu Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser
 770 775 780
 Gln Pro Glu Lys Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp
 785 790 795 800
 Arg Glu Val Glu Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly
 805 810 815
 Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn
 820 825 830
 Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe
 835 840 845
 Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser
 850 855 860
 Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn
 865 870 875 880
 Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu
 885 890 895
 Glu Gly Ser Glu Asn Gly Gln Pro Gln Leu Glu Asn Phe Met Ala Ile
 900 905 910
 Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn
 915 920 925
 Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro
 930 935 940
 Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu
 945 950 955 960
 Asn Glu Glu Tyr His S r Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe

	965		970		975
Cys Glu Glu Gln	Asn Thr Gly Ile Leu	His Asp Glu Ile Leu	Ile His		
	980		985		990
Glu Glu Lys Gln	Ile Glu Val Val Glu	Lys Met Asn Ser Glu	Leu Ser		
	995		1000		1005
Leu Ser Cys Lys	Lys Glu Lys Asp Ile Leu	His Glu Asn Ser Thr	Leu		
	1010		1015		1020
Arg Glu Glu Ile	Ala Met Leu Arg Leu	Glu Leu Asp Thr Met	Lys His		
	1025		1030		1035
Gln Ser Gln Leu	Pro Arg Thr His Met	Val Val Glu Val Asp	Ser Met		
	1045		1050		1055
Pro Ala Ala Ser	Ser Val Lys Lys Pro	Phe Gly Leu Arg Ser	Lys Met		
	1060		1065		1070
Gly Lys Trp Cys	Cys Arg Cys Phe Pro	Cys Cys Arg Glu	Ser Gly Lys		
	1075		1080		1085
Ser Asn Val Gly	Thr Ser Gly Asp His	Asp Asp Ser Ala	Met Lys Thr		
	1090		1095		1100
Leu Arg Ser Lys	Met Gly Lys Trp Cys	Arg His Cys Phe	Pro Cys Cys		
	1105		1110		1115
Arg Gly Ser Gly	Lys Ser Asn Val Gly	Ala Ser Gly Asp	His Asp Asp		
	1125		1130		1135
Ser Ala Met Lys	Thr Leu Arg Asn Lys	Met Gly Lys Trp	Cys Cys His		
	1140		1145		1150
Cys Phe Pro Cys	Cys Arg Gly Ser Gly	Lys Ser Lys Val	Gly Ala Trp		
	1155		1160		1165
Gly Asp Tyr Asp	Asp Ser Ala Phe	Met Glu Pro Arg	Tyr His Val		
	1170		1175		1180
Gly Glu Asp Leu	Asp Lys Leu His Arg	Ala Ala Trp Trp	Gly Lys Val		
	1185		1190		1195
Pro Arg Lys Asp	Leu Ile Val Met Leu	Arg Asp Thr Asp	Val Asn Lys		
	1205		1210		1215
Lys Asp Lys Gln	Lys Arg Thr Ala Leu	His Leu Ala Ser	Ala Asn Gly		
	1220		1225		1230
Asn Ser Glu Val	Val Lys Leu Leu Leu	Asp Arg Arg Cys	Gln Leu Asn		
	1235		1240		1245
Val Leu Asp Asn	Lys Lys Arg Thr Ala	Leu Ile Lys Ala	Val Gln Cys		
	1250		1255		1260
Gln Glu Asp Glu	Cys Ala Leu Met Leu	Leu Glu His Gly	Thr Asp Pro		
	1265		1270		1275
Asn Ile Pro Asp	Glu Tyr Gly Asn Thr	Thr Leu His Tyr	Ala Ile Tyr		
	1285		1290		1295
Asn Glu Asp Lys	Leu Met Ala Lys Ala	Leu Leu Leu Tyr	Gly Ala Asp		
	1300		1305		1310
Ile Glu Ser Lys	Asn Lys His Gly Leu	Thr Pro Leu Leu	Leu Gly Val		
	1315		1320		1325
His Glu Gln Lys	Gln Gln Val Val Lys	Phe Leu Ile Lys	Lys Lys Ala		
	1330		1335		1340
Asn Leu Asn Ala	Leu Asp Arg Tyr Gly	Arg Thr Ala Leu	Ile Leu Ala		
	1345		1350		1355
Val Cys Cys Gly	Ser Ala Ser Ile Val	Ser Leu Leu Leu	Glu Gln Asn		
	1365		1370		1375
Ile Asp Val Ser	Ser Ser Gln Asp Leu	Ser Gly Gln Thr	Ala Arg Glu Tyr		
	1380		1385		1390
Ala Val Ser Ser	His His His Val	Ile Cys Gln Leu	Leu Ser Asp Tyr		
	1395		1400		1405
Lys Glu Lys Gln	Met Leu Lys Ile Ser	Ser Ser Glu Asn	Ser Asn Pro Glu		
	1410		1415		1420
Gln Asp Leu Lys	Leu Thr Ser Glu Glu	Glu Ser Gln Arg	Phe Lys Gly		
	1425		1430		1435
S r Glu Asn Ser	Gln Pro Glu Lys Met	Ser Gln Glu Pro	Glu Ile Asn		
	1445		1450		1455
Lys Asp Gly Asp	Arg Glu Val Glu Glu	Glu Met Lys Lys	His Glu Ser		

1460 1465 1470
 Asn Asn Val Gly Leu Leu Glu Asn Leu Thr Asn Gly Val Thr Ala Gly
 1475 1480 1485
 Asn Gly Asp Asn Gly Leu Ile Pro Gln Arg Lys Ser Arg Thr Pro Glu
 1490 1495 1500
 Asn Gln Gln Phe Pro Asp Asn Glu Ser Glu Glu Tyr His Arg Ile Cys
 1505 1510 1515 152
 Glu Leu Val Ser Asp Tyr Lys Glu Lys Gln Met Pro Lys Tyr Ser Ser
 1525 1530 1535
 Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu Glu Glu
 1540 1545 1550
 Ser Gln Arg Leu Glu Gly Ser Glu Asn Gly Gln Pro Glu Lys Arg Ser
 1555 1560 1565
 Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Leu Glu Asn Phe
 1570 1575 1580
 Met Ala Ile Glu Glu Met Lys Lys His Gly Ser Thr His Val Gly Phe
 1585 1590 1595 160
 Pro Glu Asn Leu Thr Asn Gly Ala Thr Ala Gly Asn Gly Asp Asp Gly
 1605 1610 1615
 Leu Ile Pro Pro Arg Lys Ser Arg Thr Pro Glu Ser Gln Gln Phe Pro
 1620 1625 1630
 Asp Thr Glu Asn Glu Glu Tyr His Ser Asp Glu Gln Asn Asp Thr Gln
 1635 1640 1645
 Lys Gln Phe Cys Glu Glu Gln Asn Thr Gly Ile Leu His Asp Glu Ile
 1650 1655 1660
 Leu Ile His Glu Glu Lys Gln Ile Glu Val Val Glu Lys Met Asn Ser
 1665 1670 1675 168
 Glu Leu Ser Leu Ser Cys Lys Lys Glu Lys Asp Ile Leu His Glu Asn
 1685 1690 1695
 Ser Thr Leu Arg Glu Glu Ile Ala Met Leu Arg Leu Glu Leu Asp Thr
 1700 1705 1710
 Met Lys His Gln Ser Gln Leu
 1715

<210> 379
 <211> 656
 <212> PRT
 <213> Homo sapien

<400> 379
 Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175

Leu His L u Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu
 450 455 460
 Ser Glu Glu Tyr His Arg Ile Cys Glu Leu Val Ser Asp Tyr Lys Glu
 465 470 475 480
 Lys Gln Met Pro Lys Tyr Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp
 485 490 495
 Leu Lys Leu Thr Ser Glu Glu Glu Ser Gln Arg Leu Glu Gly Ser Glu
 500 505 510
 Asn Gly Gln Pro Glu Leu Glu Asn Phe Met Ala Ile Glu Glu Met Lys
 515 520 525
 Lys His Gly Ser Thr His Val Gly Phe Pro Glu Asn Leu Thr Asn Gly
 530 535 540
 Ala Thr Ala Gly Asn Gly Asp Asp Gly Leu Ile Pro Pro Arg Lys Ser
 545 550 555 560
 Arg Thr Pro Glu Ser Gln Gln Phe Pro Asp Thr Glu Asn Glu Glu Tyr
 565 570 575
 His Ser Asp Glu Gln Asn Asp Thr Gln Lys Gln Phe Cys Glu Glu Gln
 580 585 590
 Asn Thr Gly Ile Leu His Asp Glu Ile Leu Ile His Glu Glu Lys Gln
 595 600 605
 Ile Glu Val Val Glu Lys Met Asn Ser Glu Leu Ser Leu Ser Cys Lys
 610 615 620
 Lys Glu Lys Asp Ile Leu His Glu Asn Ser Thr Leu Arg Glu Glu Ile
 625 630 635 640
 Ala Met Leu Arg Leu Glu Leu Asp Thr Met Lys His Gln Ser Gln Leu
 645 650 655

<210> 380

<211> 671

<212> PRT

<213> Homo sapien

<400> 380

Met Val Val Glu Val Asp Ser Met Pro Ala Ala Ser Ser Val Lys Lys
 1 5 10 15
 Pro Phe Gly Leu Arg Ser Lys Met Gly Lys Trp Cys Cys Arg Cys Phe
 20 25 30
 Pro Cys Cys Arg Glu Ser Gly Lys Ser Asn Val Gly Thr Ser Gly Asp
 35 40 45
 His Asp Asp Ser Ala Met Lys Thr Leu Arg Ser Lys Met Gly Lys Trp
 50 55 60
 Cys Arg His Cys Phe Pro Cys Cys Arg Gly Ser Gly Lys Ser Asn Val
 65 70 75 80
 Gly Ala Ser Gly Asp His Asp Asp Ser Ala Met Lys Thr Leu Arg Asn
 85 90 95
 Lys Met Gly Lys Trp Cys Cys His Cys Phe Pro Cys Cys Arg Gly Ser
 100 105 110
 Gly Lys Ser Lys Val Gly Ala Trp Gly Asp Tyr Asp Asp Ser Ala Phe
 115 120 125
 Met Glu Pro Arg Tyr His Val Arg Gly Glu Asp Leu Asp Lys Leu His
 130 135 140
 Arg Ala Ala Trp Trp Gly Lys Val Pro Arg Lys Asp Leu Ile Val Met
 145 150 155 160
 Leu Arg Asp Thr Asp Val Asn Lys Lys Asp Lys Gln Lys Arg Thr Ala
 165 170 175
 Leu His Leu Ala Ser Ala Asn Gly Asn Ser Glu Val Val Lys Leu Leu
 180 185 190
 Leu Asp Arg Arg Cys Gln Leu Asn Val Leu Asp Asn Lys Lys Arg Thr
 195 200 205
 Ala Leu Ile Lys Ala Val Gln Cys Gln Glu Asp Glu Cys Ala Leu Met
 210 215 220
 Leu Leu Glu His Gly Thr Asp Pro Asn Ile Pro Asp Glu Tyr Gly Asn
 225 230 235 240
 Thr Thr Leu His Tyr Ala Ile Tyr Asn Glu Asp Lys Leu Met Ala Lys
 245 250 255
 Ala Leu Leu Leu Tyr Gly Ala Asp Ile Glu Ser Lys Asn Lys His Gly
 260 265 270
 Leu Thr Pro Leu Leu Leu Gly Val His Glu Gln Lys Gln Gln Val Val
 275 280 285
 Lys Phe Leu Ile Lys Lys Lys Ala Asn Leu Asn Ala Leu Asp Arg Tyr
 290 295 300
 Gly Arg Thr Ala Leu Ile Leu Ala Val Cys Cys Gly Ser Ala Ser Ile
 305 310 315 320
 Val Ser Leu Leu Leu Glu Gln Asn Ile Asp Val Ser Ser Gln Asp Leu
 325 330 335
 Ser Gly Gln Thr Ala Arg Glu Tyr Ala Val Ser Ser His His His Val
 340 345 350
 Ile Cys Gln Leu Leu Ser Asp Tyr Lys Glu Lys Gln Met Leu Lys Ile
 355 360 365
 Ser Ser Glu Asn Ser Asn Pro Glu Gln Asp Leu Lys Leu Thr Ser Glu
 370 375 380
 Glu Glu Ser Gln Arg Phe Lys Gly Ser Glu Asn Ser Gln Pro Glu Lys
 385 390 395 400
 Met Ser Gln Glu Pro Glu Ile Asn Lys Asp Gly Asp Arg Glu Val Glu
 405 410 415
 Glu Glu Met Lys Lys His Glu Ser Asn Asn Val Gly Leu Leu Glu Asn
 420 425 430
 Leu Thr Asn Gly Val Thr Ala Gly Asn Gly Asp Asn Gly Leu Ile Pro
 435 440 445
 Gln Arg Lys Ser Arg Thr Pro Glu Asn Gln Gln Phe Pro Asp Asn Glu

450		455		460
Ser Glu Glu Tyr His	Arg Ile Cys Glu Leu Val	Ser Asp Tyr Lys Glu		
465	470	475	480	
Lys Gln Met Pro Lys	Tyr Ser Ser Glu Asn Ser	Asn Pro Glu Gln Asp		
	485	490	495	
Leu Lys Leu Thr Ser	Glu Glu Glu Ser Gln Arg	Leu Glu Gly Ser Glu		
	500	505	510	
Asn Gly Gln Pro Glu	Lys Arg Ser Gln Glu Pro	Glu Ile Asn Lys Asp		
	515	520	525	
Gly Asp Arg Glu Leu	Glu Asn Phe Met Ala Ile	Glu Glu Met Lys Lys		
	530	535	540	
His Gly Ser Thr His	Val Gly Phe Pro Glu Asn	Leu Thr Asn Gly Ala		
545	550	555	560	
Thr Ala Gly Asn Gly	Asp Asp Gly Leu Ile Pro	Pro Arg Lys Ser Arg		
	565	570	575	
Thr Pro Glu Ser Gln	Gln Phe Pro Asp Thr	Glu Asn Glu Glu Tyr His		
	580	585	590	
Ser Asp Glu Gln Asn	Asp Thr Gln Lys Gln Phe	Cys Glu Glu Gln Asn		
	595	600	605	
Thr Gly Ile Leu His	Asp Glu Ile Leu Ile His	Glu Glu Lys Gln Ile		
	610	615	620	
Glu Val Val Glu Lys	Met Asn Ser Glu Leu Ser	Leu Ser Cys Lys Lys		
625	630	635	640	
Glu Lys Asp Ile Leu	His Glu Asn Ser Thr	Leu Arg Glu Glu Ile Ala		
	645	650	655	
Met Leu Arg Leu Glu	Leu Asp Thr Met Lys	His Gln Ser Gln Leu		
	660	665	670	

<210> 381
 <211> 251
 <212> DNA
 <213> Homo sapien

<400> 381
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 ggtaacatgc ttccctaaag ggtatcccaa cccaggggcc tcaccatgac ctctgagggg 120
 ccaatatccc aggagaagca ttggggaggt gggggcaggt gaaggacca ggactcacac 180
 atcctggggc tccaaggcag aggagaggggt cctcaagaag gtcaggagga aatccgtaa 240
 caagcagtcg g 251

<210> 382
 <211> 3279
 <212> DNA
 <213> Homo sapiens

<400> 382
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 cctgaggagg ggcacatctg cagagggtag gagtggacaa acaccgctg caggggaggg 180
 gggagccctg cggcacctgg gggagcagag ggagcagcac ctgcccaggc ctgggaggag 240
 gggcctggag ggcgtgagga ggagcaggg ggctgcatgg ctggagttag ggcacaggg 300
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 aagaaggaca gggcctggct cagggtgtcc gaggtgtcg ctggcttccc ttgggatca 480
 gactgcaggg agggagggcg gcagggttgt ggggggagtg acgatgagga tgacctggg 540
 gtggtctcag gccttgcccc tgctggggc ctcaccagc ctccctcaca gtctctggc 600
 cctcagttct tccctccac tccatcctcc atctggcctc agtgggtcat tctgatcact 660
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 ggacatctag tcagagagta gtccgaaga ggtggcctct gcatgtgccc tgtgggggca 780
 gcatcctgca gatggtcccg gccctcatcc tgcagacctg tctgcaggga ctgtcctcct 840
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 gagccttggt cctctgttg gactccctgc ccatattctt glgggagtggt gttctggaqa 960

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ttaccctttag	ggctgattctg	gggttcact	tgtctgtaat	ggtytgctt	aaggtatcac	1140
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gccllacagg	aagtggatca	aggacacccat	cgcagccaac	ccctgagtgc	ccctgtccca	1260
ccctacacct	tagtaaat	aagtccacct	caagtcttgg	catcacttgg	cctttctgga	1320
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tagggggaga	aactgaagac	tgattaat	caggagggtt	gttcagggtcc	cccaaacac	1860
cgtcagattt	gatgatttcc	tagcaggact	tacagaata	aagagctatc	atgctgtgg	1920
ttattatggt	ttgttacatt	gataggatac	atactgaat	cagcaacac	aacagattga	1980
tagattagag	tgtggagaaa	acagagagaaa	acttgcagtt	acgaagactg	gcaacttggc	2040
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gtactgtatg	cagctgatag	aggaactagc	caggtggggg	cctttccctt	tggatggggg	2160
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caaggatgta	tgataaatatg	tacaaagtaa	ttccaaactg	ggaagctcac	ctgattcccta	2280
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tgaagtccct	agacotgagg	ttccctagag	ttcaaacaga	tacagcatgg	tcagagctcc	2400
cagatgtaca	aaacacaggga	ttcatccaa	atcccatctt	tagcatgaag	ggctctggcat	2460
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gcggggcctg	tyagtcaacc	ttttattgta	caggggatga	gggaaggga	gaggatgagg	2640
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aagagaagaat	ccagaatatg	gggcacattg	aggaatgata	ctgagcccca	agaacattca	2760
atcattgttt	tatttgcctt	cttttcacac	cattggtgag	ggagggattc	ccaccctggg	2820
gttatgaaga	tgggtgaaca	ccccacacac	agcacccggg	atatgagatc	aacagtttct	2880
tagccataga	gattcacagc	ccagagcagg	aggacgtctc	acaccatgca	ggatgacatg	2940
ggggatgcgc	tcgggatttg	tgtgaagaa	caaggactgt	tagaggcagg	ctttatagta	3000
acaagaoggt	ggggcaaaat	ctgatttccg	tgggggaatg	tcattggtctt	gotttactaa	3060
gttttgagac	tggcaggtag	tgaatactcat	tagcttgaga	accttgtgga	atgcagctga	3120
ccagctgat	agaggaaagta	gccagggtggg	agcctttccc	agtgggtgtg	ggacatatct	3180
ggcagatctt	tgtggcactc	ctggttacag	atactggggc	agcaaataaa	actgaatctt	3240
gttttcagac	cttaaaaaaa	aaaaaaaana	aaaagttt			3279

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<210> 383
<211> 155
<212> PR3
<213> Homo sapiens
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<400> 383
Met Ala Gly Val Arg Asp Glu Gly Gln Gly Ala Arg Trp Pro His Thr
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Gly Lys Arg Gly Pro Leu Leu Gln Gly Leu Thr Trp Ala Thr Gly Gly
20 25 30
His Cys Phe Ser Ser Glu Glu Ser Gly Ala Val Asp Gly Ala Gly Gln
35 40 45
Lys Lys Asp Arg Ala Trp Leu Arg Cys Pro Glu Ala Val Ala Gly Phe
50 55 60
Pro Leu Gly Ser Asp Cys Arg Glu Gly Gly Arg Gln Gly Cys Gly Gly
65 70 75 80
Ser Asp Asp Glu Asp Asp Leu Gly Val Ala Pro Gly Leu Ala Pro Ala

125

	85		90		95										
Trp	Ala	Leu	Thr	Gln	Pro	Pro	Ser	Gln	Ser	Pro	Gly	Pro	Gln	Ser	Leu
	100							105					110		
Pro	Ser	Thr	Pro	Ser	Ser	Ile	Trp	Pro	Gln	Trp	Val	Ile	Leu	Ile	Thr
	115						120					125			
Glu	Leu	Thr	Ile	Pro	Ser	Pro	Ala	His	Gly	Pro	Pro	Trp	Leu	Pro	Asn
	130					135					140				
Ala	Leu	Glu	Arg	Gly	His	Leu	Val	Arg	Glu						
	145				150										

<210> 384
 <211> 557
 <212> DNA
 <213> Homo sapiens

<400> 384
 ggatcctcta gaggcgccgc ctactactac taaattcgcg gccgcgtcga cgaagaagag 60
 aaagatgtgt ttgtttttgg actctctgtg gtcccttcca atgctgtggg ttccaacca 120
 ggggaagggt cccttttgca ttgccaagtg ccataacct gagcactact ctaccatggt 180
 tctgcctcct ggccaagcag gctggtttgc aagaatgaaa tgaatgatto tacagctagg 240
 acttaacctt gaaatggaaa gtcttgcaat cccatttgca ggatccgtct gtgcacatgc 300
 ctctgtagag agcagcattc ccagggaacct tggaaacagt tggcactgta aggtgcttgc 360
 tccccaaagac acatccataa aggtgtttgt atggtgaaaa cgtcttccct ctttattggc 420
 ccttcttatt tatgtgaaca actgtttgtc tttttttgta tcttttttaa actgtaaaat 480
 tccattgtga aattgcaat catgcacata atttatgcga ttttttttcc aaagtacaaa 540
 aaaaaaa 557

<210> 385
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 385
 ttcccagggt atgtgcgagg gaagacacat ttaatatcct tgatggggct gattccttta 60
 gttctcttag cagcagatgg gttaggagga agtgacccaa gtggttgact cctatgtgca 120
 tctcaaaagc atctgtgtc ttogagtaag gacacatcat cactcctgca ttgttgatca 180
 aaacgtggag gtgcttttcc tcagctaaga agcccttagc azaagctcga atagacttag 240
 tatcagacag gtccagtttc cgcaccaaca cctgtgtgtt cctgtgtgtg gctcggatct 300
 ctttggccac caattccccc ttttccacat cccggca 337

<210> 386
 <211> 300
 <212> DNA
 <213> Homo sapiens

<400> 386
 gggcccgcta ccggccagg cccgcctcg cgagtccctc tccccgggtg cctgcccga 60
 gccgctcgg ccagagggt gggcgcggg ctgcctctac cggctggcg ctgtaactca 120
 gcgaccttg ccgaaggct ctagcaagga cccaccgacc ccagccgagg cggcgcggc 180
 gcggaatttg ccggtgtgt gggcgggag ggaactgcgt tccgaggac ggcagcgaag 240
 atgttagcct tcgtgccag gacgtggag cgatcccagg gctgtggtgt aacctcagcc 300

<210> 387
 <211> 537
 <212> DNA
 <213> Homo sapiens

<400> 387

```

gggcccagctc gggcaccag ggaactcttg caggcttcc tccctggatc atcaaggctg 60
ccccctctctg tgcacatcatg atcagcacct atgagttcgg caaaagcttc ttccagaggc 120
tgaaccaggc cccgctctctg gggggctgaa aggggcaagg aggcaggac cccgtctctc 180
cccccggatgg ggagagggca gggggagacc cagccaagtg ccttttctct agcactgagg 240
gagggggctt gtttcccttc cctccggcg acaagctcca gggcagggt gtccctctgg 300
gcggcccgag ccttctctag acaaaccttc ttctgtctg tccagtcgtg gggatcatca 360
cttaccaccc ccccaagttc aagaccacat ctccagctg cccctctct gtttccctgt 420
gtttgtctga gctgggcatg tctccaggaa ccaagagcc ctcagcctgg tgtagtctcc 480
ctgacccttg ttaattctct aagtctaaag atgtgtgact tcaaaaaaaa aaaaaaaa 537

```

<210> 388

<211> 520

<212> DNA

<213> Homo sapiens

<400> 388

```

aggataattt ttaaaccaat caaatgaaaa aaacaaacaa acaaaaaagg aaatgtcatg 60
tgagggtaaa ccagtttgc ttccctaat gtggaaaaag taagaggact actcagcact 120
gtttgaagat tgctctctct acagcttctg agaattgtgt tatttcaact gccaaagtga 180
ggaccccttc ccaacatgc cccagccac cctaagcat ggtcccttgt caccaggcaa 240
ccaggaaact gctacttgtg gacctacca gagaccagg gggtttgggt agctcacagg 300
acttccccc cccagaaga ttacatccc atactagact catactcaac tcaactaggc 360
tcatactcaa ttgatggta ttgacaatt ccatttcttt ctggttatta taacagaaa 420
atctttcttc ttctcattac cagtaaagga tcttggctat tttctgttgg aatgattct 480
atgaacttgt ttatttttaa tgggtgggtt tttttctggt 520

```

<210> 389

<211> 365

<212> DNA

<213> Homo sapiens

<400> 389

```

cggtgcccc gtttgacaga aggaaggcg gagcttatto aaagtctaga gggagtggag 60
gagtttaaggc tggatttcag atctgcttg ttccagccgc agtgtgccc ctgtccccc 120
aacgacttcc caataatct caccagcgcc ttccagctca ggcgtctag aagcgtcttg 180
aagcctatgg ccagctgtct ttgtgttccc tctcaccgc ctgtctcac agctgagact 240
cccaggaaac ctccagacta ccttctctg ccttcagcaa gggcgcttg ccacattctc 300
tgagggtcag lggagagacc tagactccca ttgctagagg tagaaagggg aagggtgctg 360
aqaag 365

```

<210> 390

<211> 221

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)...(221)

<223> n = A, T, C or G

<400> 390

```

tgctctcca tctggcccc gacttctctg tcaggaaagt ggggatggac cccatctgca 60
tacaagntt ctcatgggtg tggacatct ctgcttgagg ttccaggag gctctggct 120
gctctangag tctgannga ntggtgccc cantntgaca naaggaaagg cggagcttat 180
tcaaaagtcta gaggagtgag aggagtlag gctggatttc a 221

```

<210> 391

<211> 325

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(325)
 <223> n = A,T,C or G

<400> 391
 tggagcaggt cccgaggcct ccctagagcc tggggccgac tctgtgncga tgcangcttt 60
 ctctcgcgcc cagcctggag ctgctcctgg catctacca caalcagncg aggcgagcag 120
 tagccagggc actgctgcc aagcccgctc cnnataccat catgtnaccc ggtgngctct 180
 naanctngat ntccanagcc ctaccacatn tagttctgct ctcccaccgg ntaccagccc 240
 cactgcccag gaatectaca gccagtaacc tglcccagcg tctctaccta ccagtacgat 300
 gagaacctcg gatactacta tgacc 325

<210> 392
 <211> 277
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(277)
 <223> n = A,T,C or G

<400> 392
 atattgitta actccttctt ttatatcttt taacattttc atggngaaag gttcacatct 60
 agtctcactt nggcnagngn ctctactttg agtctcttcc ccggcctggn ccagtnghaa 120
 antaccanga accgncatgn cttaanacn ncctggtttc tgggttnntc aatgactgca 180
 tgcagtgca caccctgtcc actacgtgat gctgtaggat taaagtctca caglgggcgg 240
 ctgaggatac agcgcccgct cctgtgttgc tggggaa 277

<210> 393
 <211> 566
 <212> DNA
 <213> Homo sapiens

<400> 393
 actagtccag tgtggtggaa ttogcgcccg cgtcgacgga caggtcagct gtctggetca 60
 gtgatctaca ttctgaagtt gtctgaaaat gtcttcatga tttaattcag cctaaacgtt 120
 ttgccgggaa cactgcagag acaatgctgt gagtttccaa ccttagccca tctgcgggca 180
 gagaaggctc agtttgtcca tcagcattat catgatata ggaactggtta cttggttaag 240
 gaggggctca ggagatctgt cctttttaga gacacettac ttatctgaa glatttggga 300
 ggttggtttt caaaagtata aatgtcctgt ottccgalqa tcatcctgla aacattttat 360
 catttattaa tcatccctgc ctgtctctat tatttatctc atctctctac gctggaaact 420
 ttctgcctca atglttactc tgcctttgtt ttctgetggt tgtgttcttg aaaaaaaaaa 480
 cattctctgc ctgagtttta atttttglcc aaagtattt taatttatat aattaaaagc 540
 ttttgcctat caaaaaaaa aaaaaa 566

<210> 394
 <211> 384
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(384)
 <223> n = A,T,C or G

<400> 394
 gaacatacat gtcccgccac ctgagctgca gtctgacatc atcgccatca cgggcctcgc 60
 tgcasattng gaccgggcca aggetggact gctggggcgt gtgaaggagc tacaggccna 120
 gcaggaggac cgggctttta ggagttttta gctgaqlgtc ackqttagac ccaaalacca 180
 tcccaagatt atcgggagaa agggggcagt atttaacca atccgggttg agcatgacgt 240

gaacatccag tttcotgata aggacgatgg gaaccagccc caggaccaaa ttaccatcac 300
 aggggtacgaa aagaacacag aagctgccag ggatgctata ctgagaattg tgggtgaact 360
 tgagcagatg gtttctgagg acgt 384

<210> 395

<211> 399

<212> DNA

<213> Homo sapiens

<400> 395

ggcaaaaactg tgtgacotca ataagacctc gcagatccaa ggtcaagtat cagaagtqac 60
 tctgaccttg gactccaaga cctacatcaa cagcctggct atattagatg atgagccagt 120
 tatcagaggt ttcacattg cggaaattgt ggagtctaag gaaatcatgg cctctgaagt 180
 attcacgtct ttccagtacc ctgagttctc tatagagttg cctaaccacag gcagaattgg 240
 ccagctactt gtctgcaatt gtatcttcaa gaataccctg gccatccctt tgactgaagt 300
 caagttctct ttggaaagcc tgggcatctc ctcaactacag acctctgacc atgggacggg 360
 gcagcctggg gagaccatcc aatcccaaat aaaatgcac 399

<210> 396

<211> 403

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(403)

<223> n = A,T,C or G

<400> 396

tggagttntc agtgcaasca agccataaag ctccagtagc aaattactgt ctacacagaa 60
 gacattttca acttctgtct cagctgctga taanaacaaat catgtgttta gcttgactcc 120
 agacaaggac aacctgttcc ttcatnaactc totagagaaa aaaggaggtt gttagttagt 180
 actaasaaaa gtggatgaat aatctggata tttttcctaa aaagattcct tgaasacacal 240
 taggaasatg gagggcctta tgatcagaat gctagaatta gtccattgtg ctgaagcagg 300
 gttaggggga gggagtgagg gatanaagaa ggaaaaaaag aagaytgaga aaacctattL 360
 atcaasgcag gtgctatcac tcaatcttag gccctgctct ttt 403

<210> 397

<211> 100

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(100)

<223> n = A,T,C or G

<400> 397

actagtnacg tgtggtggaa ttccggggcg cgtcgaccta naanccatcl ctatagcaaa 60
 tccatccccg ctccgtgttg gtnacagaat gactgacaaa 100

<210> 398

<211> 278

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(278)

<223> n = A,T,C or G

<400> 398

129

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ggggccgcgt cgacagcagt tccgccagcg ctgcgccctg ggtggggatg tgcgtgcacgc 60
ccacctggac atctggaagt cagcggcctg gatgaaagag cggacttcac ctggggcgat 120
tcactactgt gcctcgacca gtgaggagag ctggaccgac agcgagggtg actcatcatg 180
ctccgggcag cccatccacc tgtggcagtt cctcaggag ttgctactca agccccacag 240
ctatggcgcg ttcattangt ggtccaaaca ggaagagg 278

```

<210> 399
 <211> 298
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(298)
 <223> n = A,T,C or G

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<400> 399
acggaggtgg aggaagcgnc cctgggatcg anaggatggg tccatgcatt gacccctcnc 60
ggggtgccng catggagcgc atgggcgcgg gcctgggcca cggcatggat cgcgtgggct 120
cggagatcga gcgcattggc ctggtcatgg aocgcattgg ctccgtggag cgcattggct 180
ccggcattga gcgcattggc ccgctgggoc tgcaccacat ggctccanc attgancgca 240
tgggcacagc catggagcgc attggctctg gcgtggagcn catgggtgcc ggcattggg 298

```

<210> 400
 <211> 348
 <212> DNA
 <213> Homo sapiens

```

<400> 400
acatcaacta ctctctcatt ttaaggtatg gcagttccct tcatcccttt ttcctgccll 60
gtacatgtac atgtatgaaa ttctctcttc ttaccgaact ctctccacac atcacaaggt 120
caaagaacca cagcgttaga agggtaagag ggcacctat gaaatgaaat ggtgatttct 180
tgagtctctt ttctccactt ttaaggggoc atggcaggac ttagagttgc gagttaagac 240
tgcagagggc tagagaatta ttcatcacag gctttgaggo caccocatgc acttatcccg 300
tataccctct caccatcccc ttgtctactc tgatgcccco aagatgcaao tgggcagcta 360
gttggcccca taattctggg cctttgttgt ttgttttaat tacttgggca tcccaggaag 420
ctttccagtg atctcttacc atgggcccco ctccatggat caagccctc ccaggccctg 480
tccccagccc ctcttgcctc agcccccccg cttgccttgg tgcctagccc tcccatgggg 540
agcaggtt 548

```

<210> 401
 <211> 355
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(355)
 <223> n = A,T,C or G

```

<400> 401
actgtttcca tgttatgttt ctacacattg ctacctcagt gctcctggaa acttagcttt 60
tgatgtctcc aagtagtcca ccttcattta actctttgaa actgtatcat ctttgccaag 120
taagagtggt ggcctatttc agctgctttg acaaaatgac tggctcctga cttaacgttc 180
tataaatgaa tgtgctgaag caaagtgcct atggtggcgg cgaagaagan aaagatgtgt 240
tttgttttgg actctctgtg gtcccttcca atgctgnggg ttccaacca ggggaagggt 300
cccttttgcg ttgccaagtg ccataacctat gaggactact ctaccatggn tctgc 355

```

<210> 402
 <211> 407
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(407)
 <223> n = A, T, C or G

<400> 402
 atggggcagg ctggataaag aaccaagac cactggagta tctgtctctc aagaaaccca 60
 tctcacatgc ggtggcctac ataggctcaa aataaaggaa tggagaaaaa tatttcaagc 120
 aeatggaaaa cagaaasaag caggtgttgc actctacttt tctgacaaaa cagactatgc 180
 gaataaagct aaaaaagaga aggcattac aaaggtggtc ctgacctttg ataatctctc 240
 ttgcttgata ccaacctggg ctgttttaast tgcacaaacc aaaggataa ttgtctgagg 300
 ttgtggagct tctcccttgc agagagtcac tgatctccca aattttggtt gagatgtaa 360
 gntgatattt ctgacaaact cttttctgaa gttttactca tttccaa 407

<210> 403
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(303)
 <223> n = A, T, C or G

<400> 403
 cagtatttat agcaaaactg aaaaactagt agcaggcaag tctcaaatcc aggcacccaa 60
 tctaaagcaa gagccatggc atggtgaaa tgcacaaagg gagctggcc aatctacaaa 120
 tagagaacaa gaactactca gtcattgaac aaaggcaga caccacatg gatctcatgg 180
 gggatggat attgtaatta tagagcagga agatgacagt gatcgacatt tggcacaaca 240
 tcttaacaac gaccgaacac cattatttac ataaacctcc attcggtaac catgttgaaa 300
 gga 303

<210> 404
 <211> 225
 <212> DNA
 <213> Homo sapiens

<400> 404
 aagtgttaact tttaaaaatt tagtgggttt tgaattctc tagaggaaag taaaggaaaa 60
 attgttaatg cactcattta ccttlacatg gtgaaagtcc tctcttgatc ctacaaacag 120
 acattttcca ctctgtlctc cctgttgggt aagtgtatca gatgtgttgg gcatgtgaat 180
 ctcccaagtc clgtgtata aataaagct ctttatttca ttcac 225

<210> 405
 <211> 334
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(334)
 <223> n = A, T, C or G

<400> 405
 gagctgttat actgtgagtt ctactaggaa atcatcaaat ctgagggttg tctggaggac 60
 ttcattacac ctcccccat agtgaatcag ctccagggg gtccagtccc tctccttact 120
 tcatccccat cccatgccc aggangaccc tccctccttg gctcacagcc ttctctagga 180
 ttccagtgc ctccaggaca gagtgggtta tgttttcagc tccatccttg ctgtgagttg 240
 ctggtgcggt tatgcctcca gttctgtc agtcttcat ggcagttgc cagcccatgt 300
 cactctccac tctcctcagg tggatccccc ccc 334

131

<210> 406
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 406
 ttctatacct aatgagggag ttganatnac atnnaaccag gaaatgcctg gatctcaang 60
 gaaacsaaca cccaatssac tcggagtggc agactgacas ctgtgagaca tgcacttgct 120
 acnaaacaca aatttnatgt tgcacccttg tttctacacc tgtgggttat gacaaagaca 180
 actgccaaag aatnttcaag aaggaggact gccant 216

<210> 407
 <211> 413
 <212> DNA
 <213> Homo sapiens

<400> 407
 gctgacttgc tagtatcctc tgcattcatt gaagcacaag aacttcctgc cttgactcat 60
 gtaaatgcaa taggattaaa aaataaattt gatatacat ggaacagac aaaaaatatt 120
 gtacaacatt gcaaccagtg tcagattcta caactggcca ctccaggagc aagagttaat 180
 cccagaggtc tatgtcttaa tgtgttatgg caaatggatg tcatgcaagt accttcattt 240
 ggaataatlg catttgctca tgtgacaglt gatacttatt cacatttcat atgggcaacc 300
 tgcacagacg gagaaggtct lcccatgtta aagagccllt attatcttgt ttctctgtca 360
 tgggagttcc agaaaaagtc aaaaacagaca alggggccagg ttclgtagta aag 413

<210> 408
 <211> 183
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(183)
 <223> n = A,T,C or G

<400> 408
 ggaagctncc ctcaattccl ccatntctat gttanccal ttaatgtell ttgnattaa 60
 tnccttaacta gttaatcctt aaagggtan ntaactctta actagtcnct ccattgtgag 120
 cattatacctt ccagtattcn ccttctnttt tatttactcc ttcttggcta cccatgtaet 180
 ntt 183

<210> 409
 <211> 250
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(250)
 <223> n = A,T,C or G

<400> 409
 ccacgcatg ataagutott latthotgta agtctctgta ggaatcctc aaatctgacg 60
 gtggttttgg ggaactgaac aaacctcttg taatt atc gcltcaagt tctcccccta 120
 gtccctcctt caacacacata ggaggalcc ccccttclll ctgctcacag ccttatctag 180
 gcltcccaql gcccccagga cagcgtgggc tatgtttaca gggontcett gctggggggg 240
 ggnantatgc 250

<210> 410
 <211> 306
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(306)
 <223> n = A, T, C or G

<400> 410
 ggctgggttg caagaatgaa atgaatgatt ctacagctag gacttaacct tgaatggaa 60
 agtcttgcaa tcccatittgc aggatccgtc tgtgcacatg cctctgtaga gagcagcatt 120
 cccagggacc ttggaaacag ttggcactgt aagggtgcttg ctccccaaaga caccatcctaa 180
 aagggtgtgt aatggtgaaa accgcttccct tctttatttc cccttcttat ttatgtgaac 240
 nactgggttg cttttttitgn atctttttta aactggaaag ttcaattgng aaaatgaata 300
 tontgc 306

<210> 411
 <211> 261
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(261)
 <223> n = A, T, C or G

<400> 411
 agagatattn cttaggttaa agttcataga gtccocatga actatatgac tggccacaca 60
 ggatcttttg tatttaagga ttctgagatt ttgcttgagc aggattagat aaggctgttc 120
 tttaatgtc tgaatggaa cagatttcaa aaaaaaaccc cacaatutag ggtgggaaaca 180
 aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
 ctctctcaa ggnagggcaa a 261

<210> 412
 <211> 241
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(241)
 <223> n = A, T, C or G

<400> 412
 gttcaatgtt acctgacatt totacaacac cccactcacc gatgtattcg ttgccagtg 60
 ggaacatacc agcctgaatt tggaaaaaat aatttgtttt cttgccaggg aantactacg 120
 actgactttg atggctccac aaacataacc cagtgtaaaa acagaagatg tggagggggag 180
 ctgggagatt tcactgggta catigaatto ccaactacc cangcaatta ccuagccaac 240
 a 241

<210> 413
 <211> 231
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(231)
 <223> n = A, T, C or G

<400> 413
 aaactoltaa atccaagtg ctcactctgt tgettgaate ctttccactg tctcatclcc 60
 ctcactcaag tttctagtao cttctctttg ttgtgaagga taatcaaac gaacaaacaa 120
 aagtttactc tctcatttg gaacctaaa actctottct tctgggtct gagggctcca 180
 aqaatccltg aatcanttct cagatcattg gggacccan atcaggaaac t 231

<210> 414
 <211> 234
 <212> DNA
 <213> Homo sapiens

<400> 414
 actgtccatg aagcactgag cagaagctgg aggcacaacg caccagacac tcacagcaag 60
 gatggagctg aaaacataac ccactctgtc ctggaggcac tgggaagcct agagaaggct 120
 gtgagccaaag gagggagggt ctctctttgg catgggatgg ggatgaagta aggagagggg 180
 ctggaccccc tggaaactga ttcactatgg ggggaggtgt attgaagtcc tcca 234

<210> 415
 <211> 217
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{217}
 <223> n = A,T,C or G

<400> 415
 gcaagaggett aagactgagt atcttttcta cattcttita actttctaag gggcacttct 60
 caaaacacag accaggtagc aaatctccac tgctctaagg ntctcaccac cactttctca 120
 cacctagcaa tagtagaatt cagtctact tctgaggcca gaagaatggt tcagaaaaat 180
 antggattat aaaaaataac aattaagaaa aataatc 217

<210> 416
 <211> 213
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{213}
 <223> n = A,T,C or G

<400> 416
 atgcataatnt aaagganact gcttcgcttt tagaagacat ctggnetgct ctctgcatga 60
 ggcacagcag taaagctctt tgattcccag aatcaagaac tctcccttc agactattac 120
 cgaatgcaag gtggttaatt gaaggccact aattgatgct caaatagaag gatattgact 180
 atattggaac agatggagtc tctactacaa aag 213

<210> 417
 <211> 303
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{303}
 <223> n = A,T,C or G

<400> 417
 aagttctcag gcccatcagg gaagttcaca ctggagagaa gtcatacata tgtactgtat 60

134

```

gtgggaagg ctttaactctg agttcaaatc ttcaggccca tcagagagtc cacactggag 120
agaagccata caaatgcaat gagtgtggg agagcttcag gagggttcc cattatcaag 180
ttcatctagt ggtccacaca ggagaqaasc cctataaatg tgagatatgt ggggaagggt 240
tcantcaagg ttctgtatctt caaatccatc ngagggncca cagtatanen aaacctttta 300
agt 303

```

```

<210> 418
<211> 328
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> {1}...{328}
<223> n = A,T,C or G

```

```

<400> 418
tttttggcgg tgggtggggca gggaggggac angagtctca ctctgttgcc caggetggag 60
tgcacaggca tgatctcggc tcaactacaac cctgcctcc catgtccaag cgattcttgt 120
gcttcagcct tccctgtagc tagaattaca ggcacatgcc accacaccca gotagttttt 180
gtatttttag tagagacagg gtttcaccat gttggccagg ctggtctcaa actcctnacc 240
tcagnggtca ggtgtgtctc aaactcctga cctcaagtga tctgcccacc tcagcctccc 300
aaagtgtctn gattacaggc cgtgagcc 328

```

```

<210> 419
<211> 389
<212> DNA
<213> Homo sapiens

```

```

<220>
<221> misc_feature
<222> {1}...{389}
<223> n = A,T,C or G

```

```

<400> 419
cctcctcaag aaggtctgtg gtcgcctcc cggcaaccaa gaagcctgca gtgcatatg 60
aaccctgagc catggactgg agcctgaaag gcagcgtaca cctgctcct gatcttctgt 120
cttgtttcct ctctgtggt ccattcatag cacagtgtgt gcactgagga ttgtgcagga 180
cgagcaaggc caagctggct caaagagcaa ccagtcact ctgcaacggg gtgcccagga 240
ccgttctcc agccaccac ctcactcgtt cccgcaaatg gcacatcagt tctctaccc 300
taaaggtagg acaaaagggc atctgctttt ctgaagtcc ctgctctatc agccatcag 360
tggcagccac tenggctgtg tggagcgg 389

```

```

<210> 420
<211> 408
<212> DNA
<213> Homo sapiens

```

```

<400> 420
gttctctcta actcctgcca gaaacagctc tctcaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttgggt tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagtitt tgactttggt gtttcggcat ggagaccgaa 180
gtccattga cactttccc actgacccc taaagggaat ctcattggca caaggatttg 240
gccaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatatagaaa attottgaat ggtcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg aagtgtctat acaaacctgg caagcccc 408

```

```

<210> 421
<211> 352
<212> DNA
<213> Homo sapiens

```

<220>
 <221> misc_feature
 <222> (1)...(352)
 <223> n = A,T,C or G

<400> 421
 ggtcæææaat ctttttactg atnggcattg ctacacaatc attgactatt acggaggcca 60
 gaggagaatg æggcctggcc tgggagccct gtgcctacta naagcacatt agattatcca 120
 ttcaactgaca gaacagggtct tttttgggtc cttcttctcc accacnatac acttgacgtc 180
 ctcccttcttg aagattcttt ggcagtgctc tttgtcataa cccacagggtg tagaaacaag 240
 ggtgcæacat gaaatttctg tttcgtagca agtgcattgt tcacaagttg gcangtctgc 300
 cactccgagt ttattgggtg tttgtttcct ttgagatcca tgcatttctt gg 352

<210> 422
 <211> 337
 <212> DNA
 <213> Homo sapiens

<400> 422
 atgccaccat gctggcaatg cagcggggcg tccaaggcct gcataatccag cccaagctgg 60
 cgatgatcga cggcaacogt tgcocgaagt tgcgatgcc agcugaagcg gtggtcaagg 120
 gcgatagcaa ggtgcocggcg atcgcggcg cgctcaatcct ggccaaggct agccgtgac 180
 gtgaaatggc agctgtcgaa ttgatctacc cgggtttatg catcgycggg cctæaaggct 240
 atccgacacc ggtgcæcctg gaagccttgc ægcægtggg gccgæcgcgc attææccgac 300
 gctttctccg ccggtæcggc lggcctatga æattat 337

<210> 423
 <211> 310
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(310)
 <223> n = A,T,C or G

<400> 423
 gctcaaaat ctttttactg atatggcatg cctacacaat ctttactat tagaggccag 60
 aggagaatga ggcctggcct gggæggcctg tgctactan æægcncatta gattatccat 120
 tcactæacag ææcægglett ttttgggtcc ttcttctccæ ccæcgatata cttgcagtc 180
 tæcttttgæ ægattctttg gcagttgtct ttgtcataac ccæcaggtgt anaæacaagg 240
 gtgcææcctg æættttctgt ttcgtagcaa gtgcattgtt cacagttgt æagtctgcc 300
 tæcgagttta 310

<210> 424
 <211> 370
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(370)
 <223> n = A,T,C or G

<400> 424
 gctcaaaat ctttttactg atagggatgg ctacacaatc attgactatt agaggccaga 60
 ggagaatgag gcttggcttæ ggaagccctgt gcttactaga agcacattæ attalccati 120
 cactgacaga acaggtcttt tttgggtcct tcttctccæ cæcgatatæ tkgægtcct 180
 ccttcttgææ gattcttttg æægttælett tgtæalaææ cæcaggtgtæ gææactcct 240
 ggttgaatct cttggaactc cctcattagg latgaæælag cætgatgcat tgcææægt 300
 cæcææægtg gææagatca cææcgtgcc ææggæææææ ttcatttgtæ tææcæggææ 360
 tæcgtæææg 370

136

<210> 425
 <211> 216
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(216)
 <223> n = A,T,C or G

<400> 425
 aattgctatn ntttattttg ccactcaaaa taattaccaa aaaaaaaaaa tnttaaataga 60
 taacaacnca acatcaaggc aaananaaca ggaatggntg acntgcata aatnggcoga 120
 anattatcca ttatnttaag ggttgacttc aggtacagc acacagacaa acatgcccag 180
 gaggtntcca ggaccgctcg atgtnttntg aggagg 216

<210> 426
 <211> 596
 <212> DNA
 <213> Homo sapiens

<400> 426
 ctccagtgga ggataaccct gttgcccggg gccgagggtc tccattagge Lctgattgat 60
 tggcagtcag tgatggaagg gtgttctgat cattccgact gcccgaaggg tgcctggcca 120
 gctctctgtt ttgctgagtt ggcagtagga cctaatttgt taattaagag tagatggta 180
 gctgtccctg tattttgatt aacctaatgg ccttcccagc acgactcga ttcagctga 240
 gacatcacgg caacttttaa tgaatgatt tgaaggcca ttaagaggca ctccccgta 300
 ttaggcagtt catctgcaat gataacttot tggcagctga gctggtcgga gctgtggccc 360
 aaacgcacac ttggtttttg gttttgagat acaactctta atcttttagt catgcttgag 420
 ggtggatggc cttttccgct ttaacccaat ttccactgcc ttggaagtgt agccaggaga 480
 atacactcat atactcgtgg gcttagaggo cacagcaaat gtcattggtc tactgctga 540
 gtcctgctgg Lcncatccca ggacattcca tgggcgagta cctgggagcc cgtgt 596

<210> 427
 <211> 107
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(107)
 <223> n = A,T,C or G

<400> 427
 gaagaattca agttaggttt attcaagggt cttacngaga atccatanacc caggncaccag 60
 cccgggaqca gccctanaga gctcctgttt gautgcccgg ctacng 107

<210> 428
 <211> 38
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(38)
 <223> n = A,T,C or G

<400> 428
 gaacttcna anaangaatt tattcaatat ttacatt

<210> 429

38

<211> 544
 <212> DNA
 <213> Homo sapiens

<400> 429
 ctttgctgga cgggaataaaa gtggacgcaa gcatgaccto ctgaltgagg cgtctgcattt 60
 attgaagagc ggctgcagcc ctgcgggttc gattaaaato cgggaattgt atagacgccc 120
 atatccacga actcttgaag gactttctga tttatccaca atcaaatcat cggtttccag 180
 tttggttggt ggctcatcac ctgtagaacc tgaattggcc gtggctggaa tccactcgtt 240
 gccttccact tcagttacac ctcaatcacc atccctccct gttggttctg tctgtcttca 300
 agatactaag cccacatttg agatgcagaa gccatctccc ccaattccct ctgtccatcc 360
 tgatgtgcag ttataaanao tgcctcttca tgatgtcctt gatgttctca tcaagcccac 420
 gagttagtt caaagcagta ttcaagcatt tcaagagaag ttttttattt ttgttttgac 480
 aactcaacaa gttagagaga tctgcctatc cagggatttt ttgccagggt gtaggagaga 544
 ttat

<210> 430
 <211> 507
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(507)
 <223> n = A,T,C or G

<400> 430
 cttatmcaa tggggctccc aaacttggct gtgcagtga aactccgggg gaattttgaa 60
 gaacactgac acccatcttc caccocgaca ctctgattta attgggctgc aglgagaaca 120
 gageatcaat ttataaagct gccagagtg tctccttgg cagcgttgtg atctttgcca 180
 ccttctgtac tttatgcaat gcatcatgct atttcatacc taatgaggga gttccaggag 240
 attcaaccag gatgttctca cncctgtggg ttatgacaaa gacaactgoc aaagaatntt 300
 caagaaaggag gactgcaggt atctcgttgt ggagaagaag gacccaaaaa agacctgttc 360
 tgtcagtgaa tggataatct aatgtgcttc tagtaggcac agggctccca ggccaggcct 420
 cattctcttc tggcctctaa tagtcaatga ttgtgtagcc atgocctatca gtaaaaagat 480
 ttttgagcaa aaaaaaaaaa aaaaaaa 507

<210> 431
 <211> 392
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...(392)
 <223> n = A,T,C or G

<400> 431
 gaaattccag aatggatasa aacaaatgaa gtacaaaata tttcagattt acatagcgat 60
 aaucaagaaa gcacttctca ggaggactta caaatggaag tacactctan aaccatcate 120
 tatcatggct aactgtgaga ttagcacagc tgtattattc gtacattgca aacacctaga 180
 agagatggg aaacaaatc ccaggagttt tgtgtgtgga gtccctgggt ttccaacaga 240
 catcattcra gcattctgag attaggngga ttggggatca ttctggagtt ggaatgttca 300
 acaaaagtga tgttgttagg taaaatgtac aacttctgga tctatgcaga cattgaaggt 360
 gcaatgagtc tggcttttac tctgctgttt ct 392

<210> 432
 <211> 387
 <212> DNA
 <213> Homo sapiens

<220>

138

<221> misc feature
 <222> (1)...(387)
 <223> n = A,T,C or G

<400> 432

```

ggtatccta cataatcaaa tatagctgta gtacatgttt tcattggngt agattaccac 60
aatgcaagg caacatgtgt agatctcttg tottattott ttgtctataa tactgtattg 120
ngtaqtccaa gctctcggna gtccagccac tngaaacat gctcccttta gattaacctc 180
gtggacnctn ttgttgnatt gtctgaactg tagngccctg tatitttgctt ctgtctgnga 240
attctgttgc ttctggggca ttctcttngg atgcagagga ccaccacaca gatgacagca 300
atctgaattg ntccaatcac agctgcgatt aagacatact gaaatcgtac aggaccggga 360
acaacgtata gaacactgga gtccctt

```

387

<210> 433
 <211> 281
 <212> DNA
 <213> Homo sapiens

<220>

<221> misc feature
 <222> (1)...(201)
 <223> n = A,T,C or G

<400> 433

```

ttcaactaga anagaanaact gcttcagggg gtgtaaaatg aaaggcttcc acgcagttat 60
ctgattcaag aacactaaga gagggacaag gctagaagcc gcaggatgtc tacactatag 120
caggcnctat ttgggttggc tggaggagct gtggaaaaca tggagagatt ggcgtctggag 180
atcgccgtgg ctattcctcn ttgntattac accagngagg ntctctgtnt gccacttgtt 240
tnnaaaacog ntatacaata atgatagaat aggcacaca t

```

281

<210> 434
 <211> 484
 <212> DNA
 <213> Homo sapiens

<400> 434

```

ttttaaaata agcatttagt gctcagtcoc tactgagtag tctttctctc ccctcctctg 60
aatctaattc ttccaacttg caatttgcac ggattacaca tttaactgtg atgtatatag 120
tgttgcaaaa aaaaaaaagt gtctttgttt aaaattactt ggtttgtgaa tccatcttgc 180
tttttcccc ttggaactag tcattaaccc atctctgaac tggtagaaaa acatctgaag 240
agctagtcta tcagcatctg acaggtgaat tggatggttc tcagaacctt ttcaaccaga 300
cagctgttt ctatcctgtt taataaatta gtttgggttc tctacatgca taacaaaccc 360
tgcaccaate tgtcacataa aagtctgtga ctggaagttt agtcagcacc cccacczaac 420
tttatitttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataaag taacctgtgc 480
tita

```

484

<210> 435
 <211> 424
 <212> DNA
 <213> Homo sapiens

<400> 435

```

gggcgctca gaggaggtna cttcttgcct tccacgtcct ccttcaagga agccccatgt 60
gggtagcttt caatatcgca ggttcttact cctctgcctc tataagctca aaccacccaa 120
cgatcgggca agtaaacccc ctccctcgcc gacttcggaa ctggcgagag ttcagcgag 180
atgggctctt ggggaggggg caagatagat gagggggagc ggcatgggtc ggggtgacc 240
cttggcgaga ggaaaaaggc cacaagaggg gctgccaccg ccactaacgg agatggccct 300
ggtagagacc ttgggggtc tggaaacctc ggactcccc tgccttaact cccacactct 360
gctatcagas acttaacett gaggatttct tctgttttct actcgcaata aattcagagc 420
aacc

```

424

<210> 436

139

<211> 667
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(667)
 <223> n - A,T,C or G

<400> 436
 accttgggaa naactctcaca atataaaggg tcttagaactt tactccaaat tccaaaaagg 60
 tcttgcccat gtaatcctga aagttttccc aaggtagcta taaaatcctt ataaagggtgc 120
 agcctcttctt ggaattcctc tgatttcaaa gtctcactct caagttcttg aaaaacggggg 180
 eagttcctga aaggcaggta tagcaactga tcttcagaaa gaggaactgt gtgcaccggg 240
 atgggctgcc agagttaggat aggtatccag atgttgacac ctctctgggg 300
 gccagggttg tcatagcaact catcaaaagt cgttcacact ctgtctcttc aatctaaacc 360
 tgttcatgtt tataggactc attcaagaat lltctatata tctttcttat atactctcca 420
 agttcataat gctgtcccat gccagctgg gtgagttggc caaatccttg tggccatgag 480
 gattccttta tggggtcagt gggaaagggt tcaatgggac ttcggtctcc atgccgaacc 540
 aocaaagtca caaucttcaa ctcttggct agtacactc ggtctagcca gaaaaaagg 600
 agaaacaaaga agccaaggct aaggcttgc gccctgccag gaggagggtt gcagctctca 660
 tgttgag 667

<210> 437
 <211> 693
 <212> DNA
 <213> Homo sapiens

<400> 437
 ctacgtctca accctcattt ttaggtaagg aatcttaagt ccaaaagatat taagtgaactc 60
 acacagccag gtaaggaaag ctggtttggc acactaggac tctaccalac cgggttttgt 120
 taaagctcag gttaggaggc tgataagctt ggaagggaact tcagacagnt ttttcagatc 180
 ataaaagata attcttagcc catgttcttc lccagagcag acctgaactg acagcacago 240
 aggtactcct ctattttcac cctcttggct tctactctct gccagtcaga cttgtgggag 300
 gccatgggag aaagcagctc tctggaatgt tgtagagatc atggactatt ctctgtggac 360
 catttctcua ggttaacctc ggtgtcactc ttggggggac agcragcatc tttagcttct 420
 atttgagltt ctgtctgtct tcagtagagg aaacttttgc tcttcacact tcacatctga 480
 acacclaaat gctgttgctc ctgaggttgt gaaagacaga tatagagctt acagtattta 540
 tctatattct aggcactgag ggctgtgggg taccttgtgg tgccaaaaca gatctgttt 600
 taaggacatg ttgtctcaga gatgtctgta actatctggg ggtctgtttg gctctttacc 660
 ctgcacatg tgctctcttg gctgaaaatg acc 693

<210> 438
 <211> 360
 <212> DNA
 <213> Homo sapiens

<400> 438
 ctgcttatca caatgaatgt tctcttgggc agcgttgtga tcttltgcac cttcgtgact 60
 ttatgcaatg catcatgcta ttctcatccct aatgaggggag ttccaggaga ttcaaccagg 120
 atgtttctac acctgtgggt tatgacaaag accactgcca aagaatcttc aagaaggagg 180
 actgcaagta tatctggttg agaagaaagg cccaaaaaaag acctgttctg tcagtgaatg 240
 gataatctaa tgtgcttola gtgggcacag ggtctccagg ccaggctca ttctctctg 300
 gctctataa qtcataaatt qcttagccat gctatcagt aaaaagattt ttgagcaaac 360

<210> 439
 <211> 431
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(431)

<223> n - A,T,C or G

<400> 439

```

gttccctnnta actcctgcca gaaacagctc tccccaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagttag tgactttggg gtttcggcat ggagaccgaa 180
gtcccattga cacttttccc actgacccca taaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cggcgccgcg 420
aatttagtag t

```

431

<210> 440

<211> 523

<212> DNA

<213> Homo sapiens

<400> 440

```

agagataaag cttaggtcaa agtccataga gttcccatga actatctaac tggccacaca 60
ggatcttttg tatttaagga ttctaaagatt ttgcttgagc aggatctgat aaggctgttc 120
tttaaatgtc tgaattgaaa cagatttcaa aaaaaaaccc cacaatctag ggtgggaaca 180
aggaaggaaa gatgtgaata ggctgatggg caaaaaacca atttaccat cagttccagc 240
cttctctcaa ggaaggcca agaaaggaga tacagtggag acatctggaa agttttctcc 300
actggaaaac tgctctatc tgtttttata tttctgttaa aatataatgag gctacagaac 360
taaaaattaa aacctctttg tgtccttggg tcttggaaac tttatgttcc ttttaagaaa 420
acaaasatca aactttacag aasgatttga tgtatgtaac acatataaga gctcttgaag 480
tatatatatc atagcaata agtcatctga tgagaacaag cta

```

523

<210> 441

<211> 430

<212> DNA

<213> Homo sapiens

<400> 441

```

gttccctccta actcctgcca gaaacagctc tccccaacat gagagctgca cccctcctcc 60
tggccagggc agcaagcctt agccttggct tcttgtttct gcttttttcc tggctagacc 120
gaagtgtact agccaaggag ttgaagttag tgactttggg gtttcggcat ggagaccgaa 180
gtcccattga cacttttccc actgacccca taaggaatc ctcatggcca caaggatttg 240
gccaaactcac ccagctgggc atggagcagc attatgaact tggagagtat ataagaaaga 300
gatataaaaa attcttgaat gactcctata aacatgaaca ggtttatatt cgaagcacag 360
acgttgaccg gactttgatg agtgctatga caaacctggc agcccgctga cggcgccgcg 420
aatttagtag

```

430

<210> 442

<211> 362

<212> DNA

<213> Homo sapiens

<400> 442

```

ctaaggaatt agtagtgttc ccatcacttg ttggagtggt gctattctaa aagattttga 60
tttctgggaa tgacaattat attttaactt tggtagggga aagagttata ggaccacagt 120
cttcacttct gatacttgta aattaatctt ttattgcact tgttttgacc attaaagctat 180
atgttttagaa atggctattt tacggaaaaa ttgagaaatc tctgataata gtgcagaata 240
aatgaattaa tgttttaact aatttatatt gaactgtcaa tgacaataaa aaattctttt 300
tgattatttt ttgttttcat ttaccagaat aaaaaactag aattaaaagt ttgattacag 360
tc

```

362

<210> 443

<211> 624

<212> DNA

<213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(624)
 <223> n = A,T,C or G

<400> 443

```

tttttttttt gcaacacaaat atacatcaca gtgaaatgtg taatccttgc aaattgcaag 60
ttgaaagaat taaattcaga ggaggggaga gaaagagtac tcagtaggga ctgagcacta 120
aatgcttatt ttaaaagaaa tgtaaagago agaaagcaat tcaggctacc ctgccttttg 180
tgctggctag tactcgggc ggtgtcagca gcacgtggca ttgaacattg caatgtggag 240
cccaaacac agaaaatggg gtgaaattgg ccaactttct attaaccttg cttcctgttt 300
tataaatat tgtgaatnat atcacctact tcaaggggca gttatgaggc ttaaatgaac 360
taacgcctac aaacacacta aacotagata acataggtgc aagtaactat tatctgttac 420
atggtaaacu tctttattat taagtcacac gctaaaatga atgtgtgtgc atatgcta 480
agtacagaga gagggcactt aaaccaacta agggcctgga gggaagggtt cctggaaaga 540
ngatgcltgt gctgggtcca aatcttggtc tactatgacc ttggcccaut tatttaact 600
ttglccctat ctgctaacca gabc 624

```

<210> 444
 <211> 425
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(425)
 <223> n = A,T,C or G

<400> 444

```

gcacatcatt nntcttgcac tctttgagaa taagaagatc agtaaatagt tcagaagtgc 60
gaagctttgt ccaggccctgt gctgtgaacc aatgttttgc ttagaatatag aacaagtaag 120
ttcattgcta tagcataaca caaaatttgc ataagtgtg gtcagcaaat ccttgaatgc 180
tgcttaaatgt gagaggttgc taaaatcclt tgtgcacac tctaaactcc tgaatgtttt 240
gctgtgctgg gacctgtgca tgccagacaa ggcacagctg gctgaaagag caaccagcca 300
cctctgcaat ctgccacctc ctgctggcag gctt.tggttt tgcclctgtl gaagagccaa 360
ggaggcacca gggcataagt gactagactt atggtcagac cggccgcgaa tttagtagta 420
gtaga 425

```

<210> 445
 <211> 414
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (1)...(414)
 <223> n = A,T,C or G

<400> 445

```

catgtttatg nttttggalt actttgggca cctagtgttt cttaaatcgtc tatcattctt 60
ttctgttttt caaaagcaga galggccaga gtclcaacaa actgtatctt caagtctttg 120
tgaaattctt tgcattgtgc agattcttgg atgtagtctt ctttaactcg catataaact 180
tggtgtgttt cagataaetg aacagcassa tgttgtggaa ttaccatttg gaacattgtg 240
aatgaaaaat tgtgtctcta gatlatglaa caaataacta tttcctaacc attgatcttt 300
ggatttttat aatcctactc acaaatgaat aggcctctcc tcttgtattl tgaagcagt 360
tgggtgctgg attgataaaa aaaaaaaaag tggcgcggc cgcgaattta gtag 414

```

<210> 446
 <211> 631
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{631}
 <223> n = A,T,C or G

<400> 446
 acaaatagga anaaagtgc agagaacacc acataccttg tccggaacat tacaatggct 60
 tctgcattgca tgggaagtgt gaggattcta tcaatatgca ggagccatct tgcagggtgtg 120
 atgctgggtta tactggacaa cactgtgaaa aaaaggacta cagtgttcta tacgttggtc 180
 cuggtcctgt acgatttcag tatgtcttaa tccagctgt gattggaca attcagattg 240
 ctgtcatctg tgtgggtggtc ctctgcataa caagggccaa actttaggta atagcattgg 300
 actgagattt gtaaaccttc caaccttcca ggaatgccc cagaagcaac aqaalttaca 360
 gacagaaqca aatatacagg cactacagtt cagaacatac aaccaagagcg tccacgaggt 420
 taattctaaq ggagcatgtt tccagtggtc tggactcccg agagcttggc clacacata 480
 cagttattta gacaaagaa taagcaaga gatctacaa lgttgcttg catttggtgt 540
 aatctacacc aakgaaaca tgtactacag ctatatttga ttctgtatgg atatatattg 600
 aatagtatac attgltctga tgtttttct g 631

<210> 447
 <211> 585
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{585}
 <223> n = A,T,C or G

<400> 447
 ccttgggaaa antntacaaa tataaagggt cgtagacttt actccaaatt ccaaaaagggt 60
 cctggccatg taalactgaa agttttccca aggtagctat aaatcccta taagggtgca 120
 gcclettctg gaattcctct gatttcaaag tctcactctc aagttcttga aaacgagggc 180
 agttcctgaa aggcaggtat agcaactgat ctccagaaag aggaactgtg tgcaccggga 240
 tgggctgcca gagtaggata ggattccaga tcttgacacc ttctggggga aacagggtctg 300
 ccagggtttgt catagcactc atcaaaagtc ggtcaacgtc tgtgcttcga atataaacct 360
 gttcatgttt ataggactca ttcaagaatt ttctatatct ctittctata tactctccaa 420
 gttcataatg ctgctccatg cccagctggg tgagttggcc aaatccttgt ggccatgagg 480
 attcctttat ggggtcagtg ggaaaggtgt caatgggaat tgggtotoca tgcggaaca 540
 ccaagtcac aaacttcaac tcttggtata gtacacttgg gtcta 585

<210> 448
 <211> 93
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> {1}...{93}
 <223> n = A,T,C or G

<400> 448
 tgcctgtggg tcaattctgan nncogaactg accntgccag ccttgccgan ggccnccat 60
 ggtccctag tgcctggag agganggggc tag 93

<210> 449
 <211> 706
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature

<222> (1)...(706)

<223> n = A,T,C or G

<400> 449

```

coaagttcat gctntgtgct ggacgctgga caggggggcaa aagcnnittgc tegtgggtca 60
ttctgancac cgaactgacc atgccagccc tgcgatggt cctccatggc tccctagtgc 120
cctggagagg aggtgtctag tcagagagta gtcttggag gtggtctctg ngaggagcca 180
cggggacagc atcctgcaga tggtcgggag cgtcccatlc gccattcagg ctgcgcact 240
gttgggaagg gcgatcagtg cgggctcttt cgtctattac ccagctaggc aagggggqat 300
gtgctgcaag gcgatcagg tgggttaacgc cggggttllc ccagtcncca cgttgtaaaa 360
cgaacgucag tgaattgaal ttagglgacn ctatagaaga gctatgacgt cgcctgcacg 420
cgtacgttae cllggatcct ctagagcggc cgcctactac tectaaattc gtcggcgcgt 480
cgaacglggg tcncactga gagagtggag agtgacatgt gctggacnct gtccatgaaq 540
cactgacacg aagctggagg cacaacgcnc cagacactca cagctactca ggaggtgag 600
aacaggttga acctgggagg tggaggttgc aatgagctga gatcaggccn ctgcncacca 660
gcctggatga cagagtgaas ctccatctta aaaaaaaaaa aaaaaa 706

```

<210> 450

<211> 493

<212> DNA

<213> Homo sapiens

<400> 450

```

gagacggagt gtcactctgt tgcacaggct ggagtgcagc aagacaactgt ctaagaaaaa 60
acagttttta aaggtaaaaa aacataaaaa gaaatatcct atagtggaaa taagagagtc 120
aaatgaggct gagaacttta caaagggatc ttacagacut gtgcacaata tcaactgcacg 180
agcctaagta taagaacaa ctttggggag aaacctcat ttgacagtga ggtacaattc 240
caagtcagggt agtgaatagg gtggcaattaa acacaaalta atcctgccag ctgaaaugca 300
agagacaactg tcagagagti aaaaagtgg tctatccat ggggttattc cagagctctc 360
tcagctcaac acatctgtga actcacagac caagttctia aaccaactgtt caaactctgc 420
lacacatcag aatcacctgg agagctttac aaactcccat tgcagagggt cgaacggggc 480
gcgaatttag tag 493

```

<210> 451

<211> 501

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)...(501)

<223> n = A,T,C or G

<400> 451

```

gggcgggtcc cattedgcaal tcaggctgag caactgttgg gaagggcgat cggctgcggg 60
ctcllrgcta ttacgccagc tggcgasagg gggatgtgct gcaaggcgat taagttgggt 120
aacggccagg ttttccagc cncgacgttg taaaacgacg gccagtgaat tgaatttagg 180
lgacnetata gaagagctat gacgtgcgat gcacgcgtac gtaagcttgg atcctctaga 240
ggggcgcgct actactacta aattcgcggc cgcgtgcagc tgggatccnc actgagagag 300
tggagagtga catgtgtgtg acnctgtcca tgaagcactg agcagaagct ggagggcaca 360
cgncacagac actcacagct actcaggagg ctgagaacag gttgaacctg ggaggtggag 420
gttgcaatga gctgagatca ggcnctgcn cccagcatg gatgacagag tgaactcca 480
tcttaaaaaa aaaaaaaaaa a
501

```

<210> 452

<211> 51

<212> DNA

<213> Homo sapiens

<220>

<221> misc feature

<222> (1)...(51)

<223> n = A,T,C or G

<400> 452

agacgggttcc accnttaccac cncctttttag gatgggnntt ggggagcag c

51

<210> 453

<211> 317

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (1)...(317)

<223> n = A,T,C or G

<400> 453

tacatcttgc tttttcccca ttggaactag tcattaaccc atctctgaac tggtagaaaa 60
acatctgaag agctagtcta tcagcatctg gcaagtgaat tggatgggtc tcagaaccat 120
ttcaccana cagcctgttt ctatcctgtt taataaatta gtttgggtc totacatgca 180
taacaaaccc tgcctcaatc tgtcacataa aagtctgtga ctigaagttt antcagcacc 240
cccacaaac tttatttttc tatgtgtttt ttgcaacata tgagtgtttt gaaaataagg 300
taccatgtc tttatta 317

<210> 454

<211> 231

<212> DNA

<213> Homo sapiens

<400> 454

ttcagaggtac aatcaactct cagagtgtag tttccttcta tagatgagtc agcattaata 60
taagccacgc cagctcttgc aaggagtctt gaattctctt ctgtcactc agtagaacca 120
agaagaccaa attcttctgc atcccagctt gcaaacaaaa ttgttcttct aggtctccac 180
ccttcctttt tcagtgttcc aaagctcctc acaatttcat gaacacagc t 231

<210> 455

<211> 231

<212> DNA

<213> Homo sapiens

<400> 455

taccacagag ggataataa tcagtctcac agtaggggtc accatcctcc aagtgaaaaa 60
cattgttccg aatgggttt ccacaggcla cacacacaaa acaggaaaca tgccaagttt 120
gttccaacgc attgatgact lctccaggga tcttcttttg gcacagacca cattcagggg 180
caaggcattt ctcctagcac agctcacaat acagggtctc tttctcctct a 231

<210> 456

<211> 231

<212> DNA

<213> Homo sapiens

<400> 456

ttggcaggta cctttacaaa gaagacacca taccttatgc gttattaggt ggaataatca 60
ttccattcag tattatcgtt attattcttg gagaacccct gtctgtttac tgtaaccttt 120
tgcactcaaa ttcttttate aggaataact acatagccac tatttacaan gccattggaa 180
cctttttatt tggtcagct gctagtcagt cctgactga cattgccaag t 231

<210> 457

<211> 231

<212> DNA

<213> Homo sapiens

<220>

145

<221> misc_feature
 <222> {1}...{231}
 <223> n = A,T,C or G

<400> 457
 cgaggtaccc aggggtctga aaatctctnn ttantagtc gatagcaaaa ttgttcatca 60
 gcaatcccta atatgatctt gctataatta gatttttctc cattagagtt catacagttt 120
 tatttgattt tatttagcaat ctctttcaga agacccttga gatcattaag ctttqtatcc 180
 agttgtctaa atogatgcct catttccctc gaggtgtcgc tggcttttgt g 231

<210> 458
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 458
 aggtcttggtt ccccccaatt ccactccctt ctactctctc taggaactggg ctgggcccaag 60
 agaagagggg tggttagggg agccgttcag acctgaagcc ccacctctc ccttccctca 120
 acacctctac cttgggtaac agcatttgga ettatcattt gggtatgagta gaatttccaa 180
 ggtccctgggt tagacatttt gggggggccag ccccaggag aagaagattc t 231

<210> 459
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 459
 ggtaccgagg ctgctgaca cagagaaacc ccaacgcgag gaaagggaatg gaaagccaca 60
 ccttcgcgaa acctgtggtg gcccaaccagt cctaacggga caggacagag agacagagca 120
 gccctgcact gttttccctc caccacagcc atcctgtccc tcattggctc tgtgctttcc 180
 actatacaca gtcacgctcc caatgagaaa caagcaggag caccctccac a 231

<210> 460
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 460
 gcaggataaa catgotgcaa caacagatgt gactaggaac ggccgggtgac atggggaggg 60
 cctatcacc cttcttggg ggtgtgtctt tcacagtgt catgaagcct agcagcaant 120
 cccacctccc cacaagcaca cggccagcct ggagcccaaa gaagggtcct cctgcaacca 180
 gtggagcttg gtccagcctc cagtccaccc ctaccaggct taaggataga a 231

<210> 461
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 461
 cqaggtttga gaagctctaa tgtgcagggg agccgagaag caggcggcct agggagggtc 60
 gcgtgtgtct cagaagagtg tgtgcatgcc agaggggaaa caggcgcctg tgtgtcctgg 120
 gtggggttca gtgaggagtg ggaaatttgt tcagcagaac caagccgttg ggtgaataag 180
 agggggattc catggcactg atagagccct atagtttcag agctgggaat t 231

<210> 462
 <211> 231
 <212> DNA
 <213> Homo sapiens

<400> 462
 aggtaccctc attgtagcca tgggaattt gatgttcagt ggggatcagt caattaatg 60
 ggtcatgca agtataaaa ttaaaaaaa aagaatcctt gcccattctt atgtgatgtg 120

146

gaagaactgt tagagagacc aacagggtag tgggttagag atttccagag tcttacattt 180
tctagaggag gtatttaatt tcttctcact catccagtgt tgtatttagg a 231

<210> 463

<211> 231

<212> DNA

<213> Homo sapiens

<400> 463

tactccagcc tggtagacaga gcgagacct atcacggccc cccacccccc caaaaaaaaa 60
actgagtaga caggtgtcct ctggcatgg taagtcttaa gtcccctccc agatctgtga 120
catttgacag gtgtcttttc ctctggacct cgggtgtccc atctgagtga gaaaaggcag 180
tggggagggtg gatcttcacg tcgaagcggc atagaagccc gtgtgaaaag c 231

<210> 464

<211> 231

<212> DNA

<213> Homo sapiens

<400> 464

gtactctaaag alllttatcta agttgcccllt tctgggtggg aaagtttaac cttagtgact 60
aaggacatca catatgaaga atgtttaagt tggagggtggc aacgtgaatt gcaaacaggg 120
cctgcttcag tgaclgtgtg cclgtagtcn cagctactcg ggagtcctgtg tgaggccagg 180
ggtgcacagc caccagctag atgctctgta acttctagge cccattttcc c 231

<210> 465

<211> 231

<212> DNA

<213> Homo sapiens

<400> 465

catgttgttg tagctgtggc aatgctggct gaatctcaga cagggttaac tttagctcct 60
gtggcaaat agcaacaaat tctgacatca tatttatggc ttctgtatct ttgttgatga 120
aggatggcac aatttttgc tgtgttcata atatactcag attagttcag ctccatcaga 180
taaaactggag acctgcaggc cattgggga gtgttgtagc tctggtaatg a 231

<210> 466

<211> 231

<212> DNA

<213> Homo sapiens

<400> 466

caggtaacct ttccattgg atactgtgct agcaagcatg ctctccgggg tttttttaat 60
ggccttcogaa cagaacttgc cacataccca ggtataatag tttctaacat ttgcccaggc 120
cctgtgcaat caaatattgt ggagaattcc cttagctggag aagtcacaaa gactatagga 180
aataatggag accagtcoca caagatgaca accagtcgtt gtgtgoggct g 231

<210> 467

<211> 311

<212> DNA

<213> Homo sapiens

<400> 467

gtacaccctg gcaagatcca atctgaactg gtccggcact catctttcat gagatggatg 60
tggtagcttt tctccttttt catcagact cctcagcagg gagcccagac cagcctgcac 120
tgtgcttae cagaaggctt tgagattcta agtgggaatc atttcagtga ctgtcatgtg 180
gcattgggtct cgcacaagc lcgtaatgag actatagcaa ggcggctgtg ggacgtcagt 240
tgtgacctgc tgggcctccc aatagactaa caggcagtg cagttggacc caagagaaga 300
ctgcagcaga c 311

<210> 468

<211> 3112

<212> DNA

<213> Homo sapiens

<400> 468

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aagatctgce tgggtgggaag gacctgatga tacagagltt gataggagac aattaaaggc 120
tggaaaggcac tggatgacctg atgatgaagt ggaactttcaa actggggcac tactgaaccg 180
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ttcgtgttgc tgcctaatat gttagtgact gtttttctta aggagtgttc tggccaggag 2100
gatctgtgaa caggctggga agcatctcaa gatctttcca ggtttatact tactagcaca 2160
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ccacagaggg aatgtttatg gggcacgttt gtaagcctgg gatgtgaagc aaaggcaggg 2820
aacctcatag tatcttatat aatatacttc atttctctat ctctatcaaa atatccaaca 2880
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tttgtccttg tagttaattg aaagaatatg ggcactcttg tagggttcc 3060
tcttgcaat aaagaattta caaagagcaa aaaaaaaa aaaaaaaa aa 3112

```

<210> 469

<211> 2229

<212> DNA

<213> Homo sapiens

<400> 469

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agctctttgt aaattcttta ttgccaggag tgaaccctaa agtggctcac aagagtqccc 60
tatttctttc aatttaactac aaggscaaac acatctcaaa gttgagataa gtgaccagta 120
tgatttgcca aaattctaaa gcgcactcac catgaaatgg ataaaggtta cctttgggga 180
tttgcactgc atgaattctg tgaaaagctt gttggatatt gtgatagaga tagagaaatg 240
aagtatatta tataagatac tatgaggttc cctgcctttg cttcacatcc caggcttaca 300
aacgtgcccc ataaacattc cctctgtggc tcttgcatth catatattta tctaaactct 360
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ccttctttgc atgaagtaag atagtcaact tattcaaaac tttacatcat tctagattta 480
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cagactcttc cttttgttt gttgcctgtc ttglaagacc ctcaagcttl lctcglclgt 1380
tttctctcqa ttggttaatgc tcaatttggg acctcttctc aaatctgtaa tcccgttcaa 1440
ataaalalcc acaaacaggat ctttccctca caagcgggac caggcacagg gcgaggctca tccatgaccc 1500
tttctaagt ctccctctca ctcccaggga tctctgtgct tctttttgtg tccactacta gacattatat 1560
aagatggcgg cggggrattt ctcccaggga tggaaatgtg taactccatt tccagcagatg ggtggcctca 1620
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agacaaatgg caagggtgca gcataccctg aacttgagtt gagagctaca cacuatatta 1860
ttggtttccg agcatcacaa acaccctctc gtgtttctca ctgggcacag aattttaata 1920
cttatttcag tgggctgttg gcaggaaucg atgaagcaat ctacataaag tccactagtgc 1980
agtgcctgac acacaccatt ctgttgaggt cccclctaga gatccacag gtcalatgac 2040
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ggtcaccctg gglcaggagc tcaagaccag cctggccaat atgglgaaac cccatctcta 2160
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aatggcaatt

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<210> 470

<211> 2426

<212> DNA

<213> Homo sapiens

<400> 470

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gtaaattctt tattgccagg agtgaacct aaagtggctc acaagagtgc cctatttctt 60
tcaatttaact acagggaaca acacatctca aagttgagat aagtgaccag tatgatttgc 120
caaaattcta aagcgcactc accatgaaat ggataaaggf taactttggg gatitgcact 180
gcattgaatc tgtgaaaagc ttgttgagata ttgtgataga gatagagaaa tgaagtatat 240
tatataagat actatgaggt tccctgcctt tgcctcauat cccaggctta canagctgcc 300
ccataaacat tccclctctg gctcttgcat ttcalatatt tatctaaact cttataatca 360
aattacnctt ttagtatttg clgctctcat tgatgatgaa lctcataatgt gtcccttctt 420
tgcatgaagt aagatagtc aactallica aacillacat cattctagat ttaaggagaa 480
aggaagagct tctcaggcag aaggaataat gtatgcctga catgttcagg gaatlacaa 540
ttagattttg tttagggtgca tgggggaggg tgatggtgat gacagelaaq gctgggggga 600
tggggagagg ctgttgctgt alacagccctc aaggaccta gtcatctttg cactgggaaa 660
tggaaaaaaa atcaaaacaa ggggagggal aaaggacatt gaattcttnc aggttaaaaa 720
ccccctctgt aattaaattc ccataagctg gatatacatt ggtcttgaga atgggcacaa 840
aaaaagttaa tctctgata tttaaggaa gacattttga ggtcttgaga ttgagataatt 900
aagtgggaaa tgaatttcag tatgggcac gacactgagg atgatgttga ttagataatt 960
cactccgtaa tgatcatgct gtgtgctagt aagtataacc ctggaaagat cttgagatgc 960

```

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ttcccagcct gttcacagat cccctgggcc agaacactcc ttaggaaaaa cagtcagcta 1020
catattaggg agcaacaaga aggggtctttg aacaaatga gtaatgttat tctacagtgt 1080
agaaagggtca cagtacagat ctgggaacta aatattaaag atgagtgtgg ctggatatat 1140
ggagaatgtt gggcccaga ggaaccgtag agatcagata ttacaacagc tttgttttga 1200
gggttogaaga tatgaaatga tttggttatg aargcacagt ttaggcagca gggccagaat 1260
cctgacccctc tgcgccgtgg ttatctctctc ccagcttgg ctgcctcatg tcatcacagt 1320
attccatttt gtttgttga tgtcttgtga agccatcaag atttctctgt ctgttttctt 1380
ctcattgtta atgctcactt tgtgacttca tttcaaatct gtaatccgt tcaaataaat 1440
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atgtecttcc ctcaacaagc ggaccaggca cagggcgagg ctcatogagt acccaagatg 1560
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tccgagcctc acaaacaccc tctctgttcc ttcactgggc acagaatttt aatacttatt 1920
tcagtgggtc gttggcagga acaaatgaag caatctacat aaagtcacta gtgcagtgcc 1980
tgacacacac cattctctt aggtccctc tagagatccc acaggtcaca tgacttcttg 2040
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ctgaggtcag gatttcaga ccagcctggc caatatgglg aaaccccatc lclactaaaa 2160
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aggcaggaga attgttgaa catgggaggc ggaagttgca gtgagctgta attgtgccat 2280
tgcactcgaa cctgggcgac agagtgggac tctgttcca aaaaacaaac aaacaaaaaa 2340
ggcctagtca gatacaacgt gggcggggtg tgtaaataga agcaggatat aaagggcatg 2400
gggtgacggc tttgcccac acaatg

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<210> 471
 <211> 812
 <212> DNA
 <213> Homo sapiens

```

<400> 471
gaacaaaatg agtaatgtta ttctacagtg tagaaaggtc acaglacaga tctgggaact 60
aatattaaaa aatgagtgtg gctggatata tggagaaatgt tgggcccaga aggaaccgta 120
gagatcagat attacaacag ctttgttttg aggglagaa atelgaatg atttgggtat 180
gaacgcacag tttaggcagc agggccagaa tcttgaccct ctgcccgtg gttatctctt 240
cccagcttg gctgcctct gtcctcacag tattccattt tgtttgttgc atgtcttgtg 300
aagccatcaa gattllctc tctgtllct tctcattggg aatgtctact ttgtgacttc 360
attcaaatc tgaatcccg ttcaaataaa tatccacac aatgtctctt cctcacaaagc 420
tctlltaagg aacacatcaa ttcattttct aatgtctctt ggcggccggg cattctccc 480
aagggcgag gctcatngat gacccaagat ggtgtgtgtg gatatttaaa ggggttgaa 540
gtcttctctt ttgtcttcc tgtgtgtgtg tcttgtgtgt tctagtgtg ttaattatct 600
acatgtcact acttagacat tatattgtca cctcagatgg taaagtcagc agcctttctt atttctcacc 660
ccatttcagc agatgtgtgg cctcagatgg gatcttctg gtctcctcg gctgcagcca 720
tctgtatcat caggctcttc ccaccatgca gatcttctg gtctcctcg gctgcagcca 780
cacaatctc cctctgttt ttctgatgcc ag

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<210> 472
 <211> 515
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc feature
 <222> (1)...[515]
 <223> n = A,T,C or G

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<400> 472
acggagattt attttctgat attgtctgca tatgtatgtt ttttaagagtc tggaaatagt 60
cttatgactt tctatcata cttatttaata aataatacag ccagagaga atgaaaatgg 120
gtttcagaat tatttggtct tgcagcccg tgaatctcag caagaggaa caccaactga 180
caatcaggat attgaacctg gacaagagag agaaggaaca cctccgatcg aagaacgtaa 240

```

150

agtagaaggt gattgccagg aaatggatct ggaasagact cggagtgagc gtggagatgg 300
 ctctgatgta aaagaaga ctcacaccta tcttaagcat gctcagacta aagaagcagg 360
 agatgggcag ccataagtta aaaagaagac aagctgaagc tacacacatg gctgatgtca 420
 cattgaaaat gtgactgeaa atttgaaaat tctctcaata aagtttgagt tttctctgaa 480
 gaaaaa aaaaaa aaaaaa aaaaaa 515

<210> 473

<211> 750

<212> PRT

<213> Homo sapiens

<400> 473

Met Trp Asn Leu Leu His Glu Thr Asp Ser Ala Val Ala Thr Ala Arg
 5 10 15
 Arg Pro Arg Trp Leu Cys Ala Gly Ala Leu Val Leu Ala Gly Gly Phe
 20 25 30
 Phe Leu Leu Gly Phe Leu Phe Gly Trp Phe Ile Lys Ser Ser Asn Glu
 35 40 45
 Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
 50 55 60
 Leu Lys Ala Glu Asn Ile Lys Lys Phe Leu Tyr Asn Phe Thr Gln Ile
 65 70 75 80
 Pro His Leu Ala Gly Thr Glu Gln Asn Phe Gln Leu Ala Lys Gln Ile
 85 90 95
 Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
 100 105 110
 Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
 115 120 125
 Ser Ile Ile Asn Glu Asp Gly Asn Glu Ile Phe Asn Thr Ser Leu Phe
 130 135 140
 Glu Pro Pro Pro Pro Gly Tyr Glu Asn Val Ser Asp Ile Val Pro Pro
 145 150 155 160
 Phe Ser Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr
 165 170 175
 Val Asn Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
 180 185 190
 Lys Ile Asn Cys Ser Gly Lys Ile Val Ile Ala Arg Tyr Gly Lys Val
 195 200 205
 Phe Arg Gly Asn Lys Val Lys Asn Ala Gln Leu Ala Gly Ala Lys Gly
 210 215 220
 Val Ile Leu Tyr Ser Asp Pro Ala Asp Tyr Phe Ala Pro Gly Val Lys
 225 230 235 240
 Ser Tyr Pro Asp Gly Trp Asn L u Pro Gly Gly Gly Val Gln Arg Gly
 245 250 255
 Asn Ile Leu Asn Leu Asn Gly Ala Gly Asp Pro Leu Thr Pro Gly Tyr

260										265					270				
Pro	Ala	Asn	Glu	Tyr	Ala	Tyr	Arg	Arg	Gly	Ile	Ala	Glu	Ala	Val	Gly				
		275					280					285							
Leu	Pro	Ser	Ile	Pro	Val	His	Pro	Ile	Gly	Tyr	Tyr	Asp	Ala	Gln	Lys				
		290				295					300								
Leu	Leu	Glu	Lys	Met	Gly	Gly	Ser	Ala	Pro	Pro	Asp	Ser	Ser	Trp	Arg				
		305			310					315					320				
Gly	Ser	Leu	Lys	Val	Pro	Tyr	Asn	Val	Gly	Pro	Gly	Phe	Thr	Gly	Asn				
				325					330					335					
Phe	Ser	Thr	Gln	Lys	Val	Lys	Met	His	Ile	His	Ser	Thr	Asn	Glu	Val				
				340				345					350						
Thr	Arg	Ile	Tyr	Asn	Val	Ile	Gly	Thr	Leu	Arg	Gly	Ala	Val	Glu	Pro				
				355			360					365							
Asp	Arg	Tyr	Val	Ile	Leu	Gly	Gly	His	Arg	Asp	Ser	Trp	Val	Phe	Gly				
		370				375					380								
Gly	Ile	Asp	Pro	Gln	Ser	Gly	Ala	Ala	Val	Val	His	Glu	Ile	Val	Arg				
		385			390				395						400				
Ser	Phe	Gly	Thr	Leu	Lys	Lys	Glu	Gly	Trp	Arg	Pro	Arg	Arg	Thr	Ile				
				405					410					415					
Leu	Phe	Ala	Ser	Trp	Asp	Ala	Glu	Glu	Phe	Gly	Leu	Leu	Gly	Ser	Thr				
			420				425						430						
Glu	Trp	Ala	Glu	Glu	Asn	Ser	Arg	Leu	Leu	Gln	Glu	Arg	Gly	Val	Ala				
			435				440					445							
Tyr	Ile	Asn	Ala	Asp	Ser	Ser	Ile	Glu	Gly	Asn	Tyr	Thr	Leu	Arg	Val				
		450				455					460								
Asp	Cys	Thr	Pro	Leu	Met	Tyr	Ser	Leu	Val	His	Asn	Leu	Thr	Lys	Glu				
					470					475					480				
Leu	Lys	Ser	Pro	Asp	Glu	Gly	Phe	Glu	Gly	Lys	Ser	Leu	Tyr	Glu	Ser				
				485				490						495					
Trp	Thr	Lys	Lys	Ser	Pro	Ser	Pro	Glu	Phe	Ser	Gly	Met	Pro	Arg	Ile				
			500					505					510						
Ser	Lys	Leu	Gly	Ser	Gly	Asn	Asp	Phe	Glu	Val	Phe	Phe	Gln	Arg	Leu				
			515				520					525							
Gly	Ile	Ala	Ser	Gly	Arg	Ala	Arg	Tyr	Thr	Lys	Asn	Trp	Glu	Thr	Asn				
			530			535					540								
Lys	Phe	Ser	Gly	Tyr	Pro	Leu	Tyr	His	Ser	Val	Tyr	Glu	Thr	Tyr	Glu				
					550					555					560				
Leu	Val	Gln	Lys	Phe	Tyr	Asp	Pro	Met	Phe	Lys	Tyr	His	Leu	Thr	Val				
				565					570					575					
Ala	Gln	Val	Arg	Gly	Gly	Met	Val	Ph	Glu	Leu	Ala	Asn	Ser	Il	Val				
				580				585					590						

Leu Pro Phe Asp Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala
 595 600 605
 Asp Lys Ile Tyr Ser Ile Ser Met Lys His Pro Gln Glu Met Lys Thr
 610 615 620
 Tyr Ser Val Ser Phe Asp Ser Leu Phe Ser Ala Val Lys Asn Phe Thr
 625 630 635 640
 Glu Ile Ala Ser Lys Phe Ser Glu Arg Leu Gln Asp Phe Asp Lys Ser
 645 650 655
 Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu
 660 665 670
 Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg Pro Phe Tyr Arg
 675 680 685
 His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
 690 695 700
 Phe Pro Gly Ile Tyr Asp Ala Leu Phe Asp Ile Glu Ser Lys Val Asp
 705 710 715 720
 Pro Ser Lys Ala Trp Gly Glu Val Lys Arg Gln Ile Tyr Val Ala Ala
 725 730 735
 Phe Thr Val Gln Ala Ala Ala Glu Thr Leu Ser Glu Val Ala
 740 745 750

 <210> 474
 <211> 386
 <212> PRT
 <213> Homo sapiens

 <400> 474
 Met Arg Ala Ala Pro Leu Leu Leu Ala Arg Ala Ala Ser Leu Ser Leu
 5 10 15
 Gly Phe Leu Phe Leu Leu Phe Phe Trp Leu Asp Arg Ser Val Leu Ala
 20 25 30
 Lys Glu Leu Lys Phe Val Thr Leu Val Phe Arg His Gly Asp Arg Ser
 35 40 45
 Pro Ile Asp Thr Phe Pro Thr Asp Pro Ile Lys Glu Ser Ser Trp Pro
 50 55 60
 Gln Gly Phe Gly Gln Leu Thr Gln Leu Gly Met Glu Gln His Tyr Glu
 65 70 75 80
 Leu Gly Glu Tyr Ile Arg Lys Arg Tyr Arg Lys Phe Leu Asn Glu Ser
 85 90 95
 Tyr Lys His Glu Gln Val Tyr Ile Arg Ser Thr Asp Val Asp Arg Thr
 100 105 110
 Leu Met Ser Ala Met Thr Asn Leu Ala Ala Leu Phe Pro Pro Glu Gly
 115 120 125
 Val Ser Ile Trp Asn Pro Ile Leu Leu Trp Gln Pro Ile Pro Val His

153

130 135 140
 Thr Val Pro Leu Ser Glu Asp Gln Leu Leu Tyr Leu Pro Phe Arg Asn
 145 150 155 160
 Cys Pro Arg Phe Gln Glu Leu Glu Ser Glu Thr Leu Lys Ser Glu Glu
 165 170 175
 Phe Gln Lys Arg Leu His Pro Tyr Lys Asp Phe Ile Ala Thr Leu Gly
 180 185 190
 Lys Leu Ser Gly Leu His Gly Gln Asp Leu Phe Gly Ile Trp Ser Lys
 195 200 205
 Val Tyr Asp Pro Leu Tyr Cys Glu Ser Val His Asn Phe Thr Leu Pro
 210 215 220
 Ser Trp Ala Thr Glu Asp Thr Met Thr Lys Leu Arg Glu Leu Ser Glu
 225 230 235 240
 Leu Ser Leu Leu Ser Leu Tyr Gly Ile His Lys Gln Lys Glu Lys Ser
 245 250 255
 Arg Leu Gln Gly Gly Val Leu Val Asn Glu Ile Leu Asn His Met Lys
 260 265 270
 Arg Ala Thr Gln Ile Pro Ser Tyr Lys Lys Leu Ile Met Tyr Ser Ala
 275 280 285
 His Asp Thr Thr Val Ser Gly Leu Gln Met Ala Leu Asp Val Tyr Asn
 290 295 300
 Gly Leu Leu Pro Pro Tyr Ala Ser Cys His Leu Thr Glu Leu Tyr Phe
 305 310 315 320
 Glu Lys Gly Glu Tyr Phe Val Glu Met Tyr Tyr Arg Asn Glu Thr Gln
 325 330 335
 His Glu Pro Tyr Pro Leu Met Leu Pro Gly Cys Ser Pro Ser Cys Pro
 340 345 350
 Leu Glu Arg Phe Ala Glu Leu Val Gly Pro Val Ile Pro Gln Asp Trp
 355 360 365
 Ser Thr Glu Cys Met Thr Thr Asn Ser His Gln Gly Thr Glu Asp Ser
 370 375 380
 Thr Asp
 385

 <210> 475
 <211> 261
 <212> PRT
 <213> Homo sapiens

 <400> 475
 Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
 5 10 15
 Ala Ala Pro L u Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
 20 25 30

Lys His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala
 35 40 45
 Val Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala
 50 55 60
 His Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu
 65 70 75 80
 Phe His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe
 85 90 95
 Pro His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg
 100 105 110
 Pro Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu
 115 120 125
 Pro Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln
 130 135 140
 Glu Pro Ala Leu Gly Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile
 145 150 155 160
 Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu
 165 170 175
 His Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val
 180 185 190
 Thr Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr
 195 200 205
 Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln
 210 215 220
 Gly Ile Thr Ser Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro
 225 230 235 240
 Ser Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr
 245 250 255
 Ile Val Ala Asn Pro
 260

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<210> 476
<211> 1079
<212> PRT
<213> Homo sapiens
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<100> 476
Met His His His His His Met Trp Val Pro Val Val Phe Leu Thr
5 10 15
Leu Ser Val Thr Trp Ile Gly Ala Ala Pro Leu Ile Leu Ser Arg Ile
20 25 30
Val Gly Gly Trp Glu Cys Glu Lys His Ser Gln Pro Trp Gln Val Leu
35 40 45

155

Val Ala Ser Arg Gly Arg Ala Val Cys Gly Gly Val Leu Val His Pro
 50 55 60
 Gln Trp Val Leu Thr Ala Ala His Cys Ile Arg Asn Lys Ser Val Ile
 65 70 75 80
 Leu Leu Gly Arg His Ser Leu Phe His Pro Glu Asp Thr Gly Gln Val
 85 90 95
 Phe Gln Val Ser His Ser Phe Pro His Pro Leu Tyr Asp Met Ser Leu
 100 105 110
 Leu Lys Asn Arg Phe Leu Arg Pro Gly Asp Asp Ser Ser His Asp Leu
 115 120 125
 Met Leu Leu Arg Leu Ser Glu Pro Ala Glu Leu Thr Asp Ala Val Lys
 130 135 140
 Val Met Asp Leu Pro Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr
 145 150 155 160
 Ala Ser Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
 165 170 175
 Lys Leu Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala
 180 185 190
 Gln Val His Pro Gln Lys Val Thr Lys Phe Met Leu Cys Ala Gly Arg
 195 200 205
 Trp Thr Gly Gly Lys Ser Thr Cys Ser Gly Asp Ser Gly Gly Pro Leu
 210 215 220
 Val Cys Asn Gly Val Leu Gln Gly Ile Thr Ser Trp Gly Ser Glu Pro
 225 230 235 240
 Cys Ala Leu Pro Glu Arg Pro Ser Leu Tyr Thr Lys Val Val His Tyr
 245 250 255
 Arg Lys Trp Ile Lys Asp Thr Ile Val Ala Asn Pro Gly Ser Met Ala
 260 265 270
 Thr Ala Gly Asn Pro Trp Gly Trp Phe Leu Gly Tyr Leu Ile Leu Gly
 275 280 285
 Val Ala Gly Ser Leu Val Ser Gly Ser Cys Ser Gln Ile Ile Asn Gly
 290 295 300
 Glu Asp Cys Ser Pro His Ser Gln Pro Trp Gln Ala Ala Leu Val Met
 305 310 315 320
 Glu Asn Glu Leu Phe Cys Ser Gly Val Leu Val His Pro Gln Trp Val
 325 330 335
 Leu Ser Ala Ala His Cys Phe Gln Asn Ser Tyr Thr Ile Gly Leu Gly
 340 345 350
 Leu His Ser Leu Glu Ala Asp Gln Glu Pro Gly Ser Gln Met Val Glu
 355 360 365
 Ala S r Leu Ser Val Arg His Pro Glu Tyr Asn Arg Pro Leu L u Ala
 370 375 380

Asn Asp Leu Met Leu Ile Lys Leu Asp Glu Ser Val Ser Glu S r Asp
 385 390 395 400
 Thr Ile Arg Ser Ile Ser Ile Ala Ser Gln Cys Pro Thr Ala Gly Asn
 405 410 415
 Ser Cys Leu Val Ser Gly Trp Gly Leu Leu Ala Asn Gly Arg Met Pro
 420 425 430
 Thr Val Leu Gln Cys Val Asn Val Ser Val Val Ser Glu Glu Val Cys
 435 440 445
 Ser Lys Leu Tyr Asp Pro Leu Tyr His Pro Ser Met Phe Cys Ala Gly
 450 455 460
 Gly Gly Gln Asp Gln Lys Asp Ser Cys Asn Gly Asp Ser Gly Gly Pro
 465 470 475 480
 Leu Ile Cys Asn Gly Tyr Leu Gln Gly Leu Val Ser Phe Gly Lys Ala
 485 490 495
 Pro Cys Gly Gln Val Gly Val Pro Gly Val Tyr Thr Asn Leu Cys Lys
 500 505 510
 Phe Thr Glu Trp Ile Glu Lys Thr Val Gln Ala Ser Glu Phe Met Val
 515 520 525
 Gln Arg Leu Trp Val Ser Arg Leu Leu Arg His Arg Lys Ala Gln Leu
 530 535 540
 Leu Leu Val Asn Leu Leu Thr Phe Gly Leu Glu Val Cys Leu Ala Ala
 545 550 555 560
 Gly Ile Thr Tyr Val Pro Pro Leu Leu Leu Glu Val Gly Val Glu Glu
 565 570 575
 Lys Phe Met Thr Met Val Leu Gly Ile Gly Pro Val Leu Gly Leu Val
 580 585 590
 Cys Val Pro Leu Leu Gly Ser Ala Ser Asp His Trp Arg Gly Arg Tyr
 595 600 605
 Gly Arg Arg Arg Pro Phe Ile Trp Ala Leu Ser Leu Gly Ile Leu Leu
 610 615 620
 Ser Leu Phe Leu Ile Pro Arg Ala Gly Trp Leu Ala Gly Leu Leu Cys
 625 630 635 640
 Pro Asp Pro Arg Pro Leu Glu Leu Ala Leu Leu Ile Leu Gly Val Gly
 645 650 655
 Leu Leu Asp Phe Cys Gly Gln Val Cys Phe Thr Pro Leu Glu Ala Leu
 660 665 670
 Leu Ser Asp Leu Phe Arg Asp Pro Asp His Cys Arg Gln Ala Tyr S r
 675 680 685
 Val Tyr Ala Phe Met Il Ser Leu Gly Gly Cys Leu Gly Tyr Leu Leu
 690 695 700
 Pro Ala Ile Asp Trp Asp Thr Ser Ala Leu Ala Pro Tyr Leu Gly Thr

705	710	715	720
Gln Glu Glu Cys Leu Phe Gly Leu Leu Thr Leu Ile Phe Leu Thr Cys	725	730	735
Val Ala Ala Thr Leu Leu Val Ala Glu Glu Ala Ala Leu Gly Pro Thr	740	745	750
Glu Pro Ala Glu Gly Leu Ser Ala Pro Ser Leu Ser Pro His Cys Cys	755	760	765
Pro Cys Arg Ala Arg Leu Ala Phe Arg Asn Leu Gly Ala Leu Leu Pro	770	775	780
Arg Leu His Gln Leu Cys Cys Arg Met Pro Arg Thr Leu Arg Arg Leu	785	790	795
Phe Val Ala Glu Leu Cys Ser Trp Met Ala Leu Met Thr Phe Thr Leu	805	810	815
Phe Tyr Thr Asp Phe Val Gly Glu Gly Leu Tyr Gln Gly Val Pro Arg	820	825	830
Ala Glu Pro Gly Thr Glu Ala Arg Arg His Tyr Asp Glu Gly Val Arg	835	840	845
Met Gly Ser Leu Gly Leu Phe Leu Gln Cys Ala Ile Ser Leu Val Phe	850	855	860
Ser Leu Val Met Asp Arg Leu Val Gln Arg Phe Gly Thr Arg Ala Val	865	870	875
Tyr Leu Ala Ser Val Ala Ala Phe Pro Val Ala Ala Gly Ala Thr Cys	885	890	895
Leu Ser His Ser Val Ala Val Val Thr Ala Ser Ala Ala Leu Thr Gly	900	905	910
Phe Thr Phe Ser Ala Leu Gln Ile Leu Pro Tyr Thr Leu Ala Ser Leu	915	920	925
Tyr His Arg Glu Lys Gln Val Phe Leu Pro Lys Tyr Arg Gly Asp Thr	930	935	940
Gly Gly Ala Ser Ser Glu Asp Ser Leu Met Thr Ser Phe Leu Pro Gly	945	950	955
Pro Lys Pro Gly Ala Pro Phe Pro Asn Gly His Val Gly Ala Gly Gly	965	970	975
Ser Gly Leu Leu Pro Pro Pro Pro Ala Leu Cys Gly Ala Ser Ala Cys	980	985	990
Asp Val Ser Val Arg Val Val Val Gly Glu Pro Thr Glu Ala Arg Val	995	1000	1005
Val Pro Gly Arg Gly Il Cys Leu Asp Leu Ala Ile Leu Asp Ser Ala	1010	1015	1020
Phe Leu Leu S r Gln Val Ala Pro Ser Leu Phe Met Gly Ser Ile Val	1025	1030	1035
			1040

158

Gln Leu Ser Gln Ser Val Thr Ala Tyr Met Val Ser Ala Ala Gly Leu
1045 1050 1055

Gly Leu Val Ala Ile Tyr Phe Ala Thr Gln Val Val Phe Asp Lys Ser
1060 1065 1070

Asp Leu Ala Lys Tyr Ser Ala
1075